Appendix A

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```
5
      File: Ravi Shanker
      import java.awt.*;
      import java.applet.*;
10
      import java.lang.*;
      import netscape.javascript.*;
      import java.io.*;
      import java.net.*;
15
      import java.util.*;
      import com.oreilly.servlet.HttpMessage;
      public class ChatClient extends Applet implements ISession
20
             netscape.javascript.JSObject
                                                 m JScriptWin;
             public String
                                          m strMessageHandler;
             public String
                                          m strErrorHandler;
25
             public String
                                          m EtMh;
             public String
                                          m SponsorHandler;
             public String
                                          m LinksHandler;
             public String
                                          m AdHandler;
             public String
                                          m CommentsHandler;
                                          m CaptionHandler;
             public String
30
             public String
                                          m TimeHandler
             public String
                                          m ClipSource;
             public String
                                          m isAppletLoad;
35
             public Vector CurrentVector;
             public int StartTime=0;
             public int SponsorCurrent = -1;
             public int LinkCurrent = -1;
40
             public int BannerCurrent = -1;
             public int CaptionCurrent = -1;
             public int CommentCurrent = -1;
             public int WhatSec = -1;
45
             public void init()
```

```
{
                    super.init();
             StartTime=0;
 5
             SponsorCurrent = -1;
            LinkCurrent = -1;
             BannerCurrent = -1;
             CaptionCurrent = -1;
             CommentCurrent = -1;
10
             WhatSec=-1;
                   // Get the JavaScript window that will have the various scripts that
                   // this applet will call.
                    m_JScriptWin = netscape.javascript.JSObject.getWindow(this);
15
                    m strMessageHandler = getParameter("MessageHandler");
                    m EtMh = getParameter("ElapsedTimeMessageHandler");
                    m strErrorHandler = getParameter("ErrorHandler");
20
                    m SponsorHandler = getParameter("SponsorHandler");
                    m LinksHandler = getParameter("LinksHandler");
                    m AdHandler = getParameter("AdHandler");
                    m CommentsHandler = getParameter("CommentsHandler");
                    m CaptionHandler = getParameter("CaptionHandler");
                    // Set the Javascript to handle if the applet has done it's init()
25
                    m isAppletLoad = getParameter("isAppletLoad");
                    m TimeHandler = getParameter("TimeHandler");
30
                    m ClipSource = getParameter("ClipSource");
                    getNextMessage(0,10,m ClipSource);
                    StartTime=10;
35
                    if (m_JScriptWin != null)
                           String Arguments[] = {"Done"};
                           m JScriptWin.call(m isAppletLoad, Arguments);
                                  System.out.println("setting time here"+seconds);
40
                    }
             }
            public void setStartTime()
45
                    int seconds = 0;
         try
```

```
URL url = new URL("http://blanche.tcn.net:8090/servlet/TimeServlet");
            HttpMessage msg = new HttpMessage(url);
5
                    Properties props = new Properties();
            props.put("ClipSource",m ClipSource);
            InputStream in = msg.sendPostMessage(props);
10
             //InputStream in = msg.sendGetMessage();
             DataInputStream data = new DataInputStream(
                        new BufferedInputStream(in));
             String lastMessage = data.readLine();
15
             seconds = Integer.parseInt(lastMessage);
         catch (SocketException e)
          // Can't connect to host, report it and wait before trying again
20
          System.out.println("Can't connect to host: " + e.getMessage());
         catch (FileNotFoundException e)
25
          // Servlet doesn't exist, report it and wait before trying again
          System.out.println("Resource not found: " + e.getMessage());
         catch (Exception e)
          // Some other problem, report it and wait before trying again
30
          System.out.println("General exception: "+
          e.getClass().getName() + ": " + e.getMessage());
             finally
35
             {
                    StartTime = seconds;
                    if (m JScriptWin!= null)
                            {
                                   String Arguments[] = {seconds+""};
40
                                   m JScriptWin.call(m TimeHandler, Arguments);
                                   System.out.println("setting time here"+seconds);
                           //
                    getNextMessage(seconds,seconds+10,m ClipSource);
                    StartTime+=10;
45
             }
```

```
}
             public void start()
 5
             public void stop()
10
             public int BeginSession(String strAuthor, String strOptions, String strType, String
      strMessage)
             {
15
                    return SendMessage(strAuthor, strType, strMessage);
             public int EndSession(String strAuthor, String strType, String strMessage)
                    return SendMessage(strAuthor, strType, strMessage);
20
             public int SendMessage(String strAuthor, String strType, String strMessage)
25
                    if (strAuthor.length() < 0)
                            return HandleSessionError(1, "Invalid author specified.");
                    if (strMessage.length() < 0)
                            return HandleSessionError(2, "Empty message");
30
                    if (m strMessageHandler == null)
                            m strMessageHandler = "HandleSessionMessage";
35
                    if (m_JScriptWin != null)
                            String Arguments[] = {strMessage};
                            m JScriptWin.call(m strMessageHandler, Arguments);
40
                    return 0;
      public void SendElapsedTime(String Time)
45
      {
```

```
int m time=0;
                    try
                    {
                           m time = Integer.parseInt(Time)/1000;
 5
                    catch(NumberFormatException nfe)
                                  System.out.println("The Error"+nfe.toString());
                                  m time=0;
10
                    //System.out.println("time sent by applet = "+m_time);
                    HandleEvent(m time);
                    //Object Arguments[] = {(new Integer(m time))};
                           m JScriptWin.call(m EtMh, Arguments);
15
                    //return 0;
     public void HandleEvent(int ETime)
20
     if(WhatSec < ETime)
             Vector Sponsor = (Vector) CurrentVector.elementAt(0);
             //System.out.println("size of the vector is = "+_Sponsor.size()+"");
25
                                         CurrentVector.elementAt(1);
             Vector Links = (Vector)
      //System.out.println("size of the links vector is = "+ Links.size()+"");
                                         CurrentVector.elementAt(2);
             Vector _banner = (Vector)
                                         CurrentVector.elementAt(3);
30
             Vector caption = (Vector)
             Vector _comment = (Vector) CurrentVector.elementAt(4);
             if( Sponsor != null)
35
                    for(int i = 0; i < Sponsor.size(); i++)
                           Vector Sp1 =(Vector) _Sponsor.elementAt(i);
40
                           int xy =((Integer)Sp1.elementAt(0)).intValue();
                    //System.out.println("xy = "+xy+"");
                           if(xy == ETime && SponsorCurrent != xy)
45
                                  if (m JScriptWin!= null)
                                   {
```

```
SponsorCurrent=xy;
                                          String Arguments[] =
      {Sp1.elementAt(1)+"",Sp1.elementAt(2)+"",Sp1.elementAt(3)+""};
                                          m JScriptWin.call(m SponsorHandler, Arguments);
 5
                           else if(xy > ETime)
                                  break;
10
                    }// end for 1st for
             }// end of 1st if
             // for links
15
             if (Links!= null)
                    for(int i = 0; i < Links.size(); i++)
20
                           Vector Sp2 =(Vector) Links.elementAt(i);
                           if(Sp2 != null)
                                  int xz =((Integer)Sp2.elementAt(0)).intValue();
                           //System.out.println("xy = "+xy+"");
25
                                  if(xz == ETime)
                                          if (m_JScriptWin != null)
                                                 //System.out.println("xy = "+xz+"");
30
                                                 String msg3="";
                                                        LinkCurrent == xz)
                                                 if(
                                                        msg3="old";
35
                                                 else
                                                        LinkCurrent=xz;
                                                        msg3="new";
40
                                                 String Arguments[] =
      {Sp2.elementAt(1)+"",Sp2.elementAt(2)+"", msg3+""};
                                                 m JScriptWin.call(m_LinksHandler,
      Arguments);
45
                                          }
                                  }
```

```
else if(xz > ETime)
                                          break;
5
                    }// end of 2nd for
             } // end of 1st if
                    // for ads
             if (banner!= null)
10
                    for(int i = 0; i < banner.size(); i++)
                            Vector Sp3 =(Vector) banner.elementAt(i);
15
                            int az =((Integer)Sp3.elementAt(0)).intValue();
                    //System.out.println("xy = "+xy+"");
                            if(az == ETime && BannerCurrent != az)
                                   if (m_JScriptWin != null)
20
                                   {
                                          BannerCurrent=az;
                                          String Arguments[] =
      \{Sp3.elementAt(1)+"",Sp3.elementAt(2)+"",Sp3.elementAt(3)+""\};
                                          m JScriptWin.call(m_AdHandler, Arguments);
25
                                   }
                            else if(az > ETime)
                                   break;
30
                    }
             }
35
             // for Caption
             if (caption!= null)
                    for(int i = 0; i < caption.size(); i++)
40
                            Vector Sp4 =(Vector) caption.elementAt(i);
                            if(Sp4 != null)
45
                                   int nn =((Integer)Sp4.elementAt(0)).intValue();
                            //System.out.println("xy = "+xy+"");
```

```
if(nn == ETime)
                                                    if (m JScriptWin!= null)
                                                           //System.out.println("xy = "+xz+"");
          5
                                                           String msg3="";
                                                                   CommentCurrent == nn)
                                                           if(
                                                           {
                                                                   msg3="old";
         10
                                                           else
                                                            {
                                                                   CommentCurrent=nn;
                                                                   msg3="new";
         15
String Arguments[] = {Sp4.elementAt(1)+"",
               msg3+""};
                                                           m JScriptWin.call(m CaptionHandler,
               Arguments);
}
         20
                                             else if(nn > ETime)
Mark half half small finds
                                                    break;
         25
                                      }
                              }// end of for
                       }// end of if
         30
                       // for comment
                       if ( comment != null)
                       {
                              for(int i = 0; i < _comment.size();i++)
         35
                                      Vector Sp5 =(Vector) _comment.elementAt(i);
                                      if(Sp5 != null)
          40
                                             int mm =((Integer)Sp5.elementAt(0)).intValue();
                                     //System.out.println("xy = "+xy+"");
                                             if(mm == ETime)
                                                    if (m JScriptWin!= null)
          45
```

```
//System.out.println("xy = "+xz+"");
                                                 String msg3="";
                                                 if(
                                                        CaptionCurrent == mm)
                                                        msg3="old";
5
                                                 else
                                                        CaptionCurrent=mm;
                                                        msg3="new";
10
                                                 String Arguments[] = \{Sp5.elementAt(1)+"",
     msg3+""};
                                                 m JScriptWin.call(m_CommentsHandler,
15
      Arguments);
                                          }
                                  else if(mm > ETime)
                                          break;
20
                    }// end of for
             }// end of if
25
             // if the time left for the next call is 1 mins
             if(StartTime-ETime <=1)</pre>
             {
                    getNextMessage(StartTime,StartTime+10,m_ClipSource);
                    StartTime=StartTime+10;
30
             }
             WhatSec = ETime;
35
      public void getNextMessage(int _Start, int _End, String ClipSrc)
             //System.out.println("in get next message durin init");
       Object obj=null;
40
         try
             URL url = new URL("http://blanche.tcn.net:8090/servlet/ILoveTvLiveServlet");
```

```
//URL url = new
     URL("http://torlife.wiredkingdom.com/servlet/ILoveTvLiveServlet?ElapsedTimeStart="+ St
     art+"&ElapsedTimeEnd="+_End+"&ClipSource="+ClipSrc);
            HttpMessage msg = new HttpMessage(url);
5
                    Properties props = new Properties();
           props.put("ElapsedTimeStart", Start+"");
                    props.put("ElapsedTimeEnd", End+"");
           props.put("ClipSource",ClipSrc);
10
             InputStream in = msg.sendPostMessage(props);
            //InputStream in = msg.sendGetMessage();
15
             ObjectInputStream result = new ObjectInputStream(in);
             obj = result.readObject();
         catch (SocketException e)
20
          // Can't connect to host, report it and wait before trying again
          System.out.println("Can't connect to host: " + e.getMessage());
25
         catch (FileNotFoundException e)
          // Servlet doesn't exist, report it and wait before trying again
          System.out.println("Resource not found: " + e.getMessage());
30
         catch (Exception e)
          // Some other problem, report it and wait before trying again
           System.out.println("General exception: "+
           e.getClass().getName() + ": " + e.getMessage());
35
        CurrentVector=(Vector)obj;
      public int HandleSessionError(int iNumber, String strDescription)
40
             {
                    //System.out.println(iNumber + ": " + strDescription);
                    if (m strErrorHandler == null)
                            m strErrorHandler = "HandleSessionError";
45
                     }
```

Appendix B

VERSION 5.00

Excalibur

5 File

```
Object = "{648A5603-2C6E-101B-82B6-00000000014}#1.1#0"; "MSCOMM32.OCX"
    Object = "{248DD890-BB45-11CF-9ABC-0080C7E7B78D}#1.0#0"; "MSWINSCK.OCX"
    Begin VB.Form FrmLine21Watch
10
      Caption
                 = "Line21 Watch"
      ClientHeight = 2655
      ClientLeft
                  = 60
      ClientTop
                  = 375
15
      ClientWidth = 11595
                   = "Form1"
      LinkTopic
                   = 0 'False
      MaxButton
                   = 0 'False
      MinButton
      ScaleHeight = 2655
      ScaleWidth
                   = 11595
20
      StartUpPosition = 3 'Windows Default
      Begin VB.CheckBox Field2
                   = "Field 2"
        Caption
        Enabled
                   = 0 'False
25
        Height
                   = 255
        Left
                  = 9360
                    = 7
        TabIndex
                  = 2400
        Top
        Width
                   = 975
30
      End
      Begin VB.CheckBox Field1
        Caption
                   = "Field 1"
        Enabled
                    = 0 'False
                   = 255
        Height
35
        Left
                  = 9360
        TabIndex
                    = 6
                  = 2040
        Top
                   = 855
        Width
40
       Begin VB.CheckBox Protocol
                    = "Protocol"
        Caption
        Enabled
                    = 0 'False
                   = 255
        Height
```

= 8160

= 5

= 2040

Left

Top

TabIndex

45

```
Width
                  = 975
      End
      Begin VB.ComboBox CB_Port
                  = 315
       Height
       Left
                 = 6960
5
                   = 4
       TabIndex
                 = "Combo1"
       Text
                 = 2040
       Top
       Width
                  = 975
10
      Begin VB.TextBox EB_IP
       Height
                  = 285
       Left
                 = 5400
        TabIndex
                   = 3
15
        Top
                 = 2040
        Width
                  = 1335
      End
      Begin MSWinsockLib.Winsock Winsock1
       Left
                 = 960
                 = 2040
20
        Top
                   = 741
        ExtentX
        _ExtentY
                   = 741
                   = 393216
        Version
      End
      Begin MSCommLib.MSComm MSComm1
25
        Left
                 = 240
                 = 2040
        Top
                   = 847
        ExtentX
        ExtentY
                   = 847
                   = 393216
30
        Version
        DTREnable
                     = -1 'True
        InputLen
                   = 1
        RThreshold
                    = 2
        SThreshold
                    = 1
35
      End
      Begin VB.CommandButton B_Watch
                   = "Watch"
        Caption
        Height
                  = 495
        Left
                 = 2520
        TabIndex
                    = 2
40
                  = 2040
        Top
        Width
                  = 1455
      End
      Begin VB.ComboBox CB_ComF1
        Height
                  = 315
45
        Left
                 = 4320
```

```
= 2 'Dropdown List
        Style
        TabIndex
                       1
                   = 2040
        Top
        Width
                   = 855
5
      End
      Begin VB.ListBox LB_Triggers
        BeginProperty Font
                      = "Courier New"
          Name
                    = 8.25
          Size
                     = 0
10
          Charset
                      = 400
          Weight
                      = 0 'False
          Underline
                    = 0 'False
          Italic
          Strikethrough = 0 'False
        EndProperty
15
        Height
                   = 1740
        Left
                  = 120
                     = 0
        TabIndex
        Top
                   = 120
                   = 11175
20
        Width
      End
     End
     Attribute VB Name = "FrmLine21Watch"
     Attribute VB GlobalNameSpace = False
     Attribute VB Creatable = False
25
     Attribute VB PredeclaredId = True
     Attribute VB Exposed = False
     Dim Loading As Boolean
     Dim running As Boolean
     Dim COMF As String
30
     Dim SyncFlag As Boolean
     Dim SyncCount As Integer
     Dim mes As String * 1024
35
     Option Explicit
     Private Sub B Watch Click()
      If running = False Then
       B_Watch.Caption = "Stop"
40
        LB Triggers.Clear
        Line21Decode 0, 0, mes
        SyncFlag = False
        SyncCount = 0
        running = True
45
        If COMF <> "LAN" Then
         MSComm1.CommPort = Val(Right(COMF, 1))
```

```
MSComm1.Settings = "9600,N,8,1"
        MSComm1.PortOpen = True
       Else
        Winsock1.RemoteHost = EB IP.Text
        Winsock1.RemotePort = CB_Port.Text
5
        Winsock1.Connect
       End If
      Else
       B_Watch.Caption = "Watch"
       running = False
10
       If COMF <> "LAN" Then
        MSComm1.PortOpen = False
       Else
        Winsock1.Close
       End If
15
      End If
     End Sub
     Private Sub CB ComF1_Click()
20
      Dim I As Integer
      Dim temp As String
      If Loading = False Then
25
       Loading = True
       COMF = CB ComF1.List(CB_ComF1.ListIndex)
       If COMF = "\overline{L}AN" Then
         EB IP.Enabled = True
         CB Port.Enabled = True
30
        Else
         EB_IP.Enabled = False
         CB Port.Enabled = False
        End If
        Loading = False
35
       End If
      End Sub
      Private Sub Form_Load()
       Dim temp As String
40
       Dim I As Integer
       Loading = True
       running = False
45
       COMF = GetSetting(APPNAME, SETTING, TCOMF, "COM1")
       For I = 1 To 4
```

```
temp = "COM" + Format(I)
       CB ComF1.AddItem (temp)
       If COMF = temp Then
        CB ComF1.ListIndex = CB ComF1.ListCount - 1
       End If
5
      Next I
      CB ComF1.AddItem ("LAN")
      If COMF = "LAN" Then
       CB ComF1.ListIndex = CB_ComF1.ListCount - 1
10
       EB IP.Enabled = True
       CB Port.Enabled = True
      Else
       EB IP.Enabled = False
       CB Port.Enabled = False
      End If
15
      EB IP.Text = GetSetting(APPNAME, SETTING, IP, "223.223.223.120")
      For I = 2000 To 9000 Step 1000
       CB Port.AddItem (Format(I))
      Next I
      CB Port.Text = GetSetting(APPNAME, SETTING, PORT, "3000")
20
      Loading = False
     End Sub
     Private Sub Form Unload(Cancel As Integer)
25
      SaveSetting APPNAME, SETTING, TCOMF, COMF
      SaveSetting APPNAME, SETTING, IP, EB IP.Text
      SaveSetting APPNAME, SETTING, PORT, CB_Port.Text
30
     End Sub
     Private Sub MSComm1 OnComm()
       Dim Trig As Long
       Dim status As Integer
       Static Num As Integer
35
       Static Dat As String
       Dim C<sub>0</sub> As Long
       Dim C1 As Long
       Dim C2 As Long
40
       status = MSComm1.CommEvent
       If status = 2 And running = True Then
                                     'Getting is sync is real ugly
        If SyncFlag = False Then
         SyncCount = SyncCount + 1
                                        'We watch for the protocol characters
         If SyncCount = 1 Then
45
          MSComm1.InBufferCount = 0
```

```
Else
                                          'and keep track of whether data is from
          Dat = MSComm1.Input
                                       'field 1, field 2 or both.
          Select Case Asc(Dat)
                                    'We want to start capturing data on field 1
           Case 17, 129
                                      'if both fields or at the start of the
             Protocol. Value = 1
5
             If Field1.Value = 0 And Field2.Value = 1 Then
              Num = 3
             Else
              Num = 0
             End If
10
                                      'field data.
             Field 1. Value = 1
            Case 18, 130
             Protocol. Value = 1
             Num = 0
             Field2.Value = 1
15
                                    'If it is not protocol data then we must
            Case 148, 28
             If SyncCount > 2 And Protocol. Value = 0 Then
                                      'decide on the field based on the control
              Field1.Value = 1
              Num = 1
                                    'codes.
20
             End If
            Case 21, 157, 1, 2, 131, 4, 133, 134, 7, 8, 137, 138, 11, 140, 13, 14, 143
             If SyncCount > 2 And Protocol. Value = 0 Then
              Field2.Value = 1
              Num = 1
             End If
25
            Case Else
             Num = Num + 1
           End Select
           If SyncCount > 5 And (Field1. Value = 1 Or Field2. Value = 1) And Num = 2 Then
30
            SyncFlag = True
            If Protocol. Value = 1 Then
             MSComm1.InputLen = 3
             MSComm1.InputLen = 2
            End If
35
           End If
         End If
         Else
          Dat = MSComm1.Input
          If Protocol. Value = 1 Then
40
           C0 = CByte(Asc(Left(Dat, 1)))
           C1 = CByte(Asc(Mid(Dat, 2, 1))) And 127
           C2 = CByte(Asc(Right(Dat, 1))) And 127
          Else
           If Field1. Value = 1 Then
45
            C0 = 129
```

Else

```
C0 = 130
          End If
         End If
         Select Case C0
5
          Case 129, 17
            Trig = Line21Decode(1, C1, mes)
            If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
             LB Triggers.AddItem (mes)
10
            End If
            Trig = Line21Decode(1, C2, mes)
            If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
             LB Triggers.AddItem (mes)
            End If
           Case 130, 18
15
            Trig = Line21Decode(2, C1, mes)
            If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
             LB Triggers.AddItem (mes)
            End If
            Trig = Line21Decode(2, C2, mes)
20
            If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
             LB_Triggers.AddItem (mes)
            End If
          End Select
        End If
25
       End If
      End Sub
      Private Sub Winsock1_DataArrival(ByVal bytesTotal As Long)
30
       Static InputLen As Integer
       Static Num As Integer
        Static Dat As String
        Dim Trig As Long
       Dim C<sub>0</sub> As Long
35
        Dim C1 As Long
        Dim C2 As Long
        If running = True Then
         If InputLen < 1 Or InputLen > 3 Then
40
          InputLen = 1
         End If
         While Winsock1.BytesReceived >= InputLen
                                           'Getting in sync is real ugly
          If SyncFlag = False Then
                                              'We watch for the protocol characters
            SyncCount = SyncCount + 1
45
           If SyncCount = 1 Then
```

```
MSComm1.InBufferCount = 0
          Else
                                          'and keep track of whether data is from
            Winsock1.GetData Dat, , 1
                                        'field 1, field 2 or both.
            Select Case Asc(Dat)
                                    'We want to start capturing data on field 1
             Case 17, 129
5
                                      'if both fields or at the start of the
              Protocol. Value = 1
              If Field1.Value = 0 And Field2.Value = 1 Then
               Num = 3
              Else
10
               Num = 0
              End If
                                       'field data.
              Field1.Value = 1
             Case 18, 130
              Protocol. Value = 1
              Num = 0
15
              Field2.Value = 1
                                      'If it is not protocol data then we must
             Case 148, 28
              If SyncCount > 2 And Protocol. Value = 0 Then
                                       'decide on the field based on the control
               Field1.Value = 1
                                     'codes.
               Num = 1
20
              End If
             Case 21, 157, 1, 2, 131, 4, 133, 134, 7, 8, 137, 138, 11, 140, 13, 14, 143
              If SyncCount > 2 And Protocol. Value = 0 Then
               Field2.Value = 1
               Num = 1
25
              End If
             Case Else
              Num = Num + 1
            End Select
            If SyncCount > 5 And (Field1.Value = 1 Or Field2.Value = 1) And Num = 2 Then
30
             SyncFlag = True
             If Protocol. Value = 1 Then
              InputLen = 3
             Else
               InputLen = 2
35
             End If
            End If
           End If
          Else
           Winsock1.GetData Dat, , InputLen
40
           If Protocol.Value = 1 Then
            C0 = CByte(Asc(Left(Dat, 1)))
            C1 = CByte(Asc(Mid(Dat, 2, 1))) And 127
             C2 = CByte(Asc(Right(Dat, 1))) And 127
45
           Else
             If Field1. Value = 1 Then
```

```
Else
                                                                                                       C0 = 130
                                                                                                End If
                                                                                           End If
                                             5
                                                                                            Select Case C0
                                                                                                  Case 129, 17
                                                                                                        Trig = Line 21 Decode(1, C1, mes)
                                                                                                       If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
                                                                                                             LB Triggers.AddItem (mes)
                                        10
                                                                                                        End If
                                                                                                        Trig = Line21Decode(1, C2, mes)
                                                                                                       If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
                                                                                                             LB_Triggers.AddItem (mes)
FR PH
                                                                                                        End If
                                          15
                                                                                                   Case 130, 18
                                                                                                         Trig = Line21Decode(2, C1, mes)
M
                                                                                                         If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
LB Triggers.AddItem (mes)
The state of the s
                                                                                                          End If
                                          20
                                                                                                          Trig = Line21Decode(2, C2, mes)
                                                                                                          If \overline{Mid}(mes, 1, 1) \Leftrightarrow Chr(0) Then
He had been here the
                                                                                                               LB Triggers.AddItem (mes)
                                                                                                          End If
                                                                                               End Select
                                           25
                                                                                         End If
                                                                                    Wend
                                                                              End If
                                             30
                                                                         End Sub
```

C0 = 129

Appendix B

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5

Excalibur

```
File: FrmLine21Watch.frm
                    VERSION 5.00
10
                    Object = "\{648A5603-2C6E-101B-82B6-00000000014\}\#1.1\#0"; "MSCOMM32.OCX"\} + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.1 + 1.
                    Object = "{248DD890-BB45-11CF-9ABC-0080C7E7B78D}#1.0#0"; "MSWINSCK.OCX"
                     Begin VB.Form FrmLine21Watch
                                                                       = "Line21 Watch"
                           Caption
                           ClientHeight = 2655
15
                           ClientLeft
                                                                        = 60
                           ClientTop
                                                                          = 375
                           ClientWidth = 11595
                           LinkTopic
                                                                            = "Form1"
                                                                              = 0 'False
                           MaxButton
 20
                                                                             = 0 'False
                           MinButton
                           ScaleHeight = 2655
                                                                             = 11595
                            ScaleWidth
                             StartUpPosition = 3 'Windows Default
                             Begin VB.CheckBox Field2
 25
                                                                              = "Field 2"
                                  Caption
                                                                                = 0 'False
                                  Enabled
                                  Height
                                                                             = 255
                                                                         = 9360
                                   Left
  30
                                   TabIndex
                                                                                  = 7
                                                                            = 2400
                                   Top
                                                                              = 975
                                   Width
                             End
                             Begin VB.CheckBox Field1
                                   Caption
                                                                                = "Field 1"
   35
                                                                                 = 0 'False
                                    Enabled
                                    Height
                                                                              = 255
```

= 9360Left TabIndex = 6

= 204040 Top = 855Width

End

45

Begin VB.CheckBox Protocol

= "Protocol" Caption = 0 'False Enabled

= 255Height

```
Left
                 = 8160
                    = 5
        TabIndex
        Top
                 = 2040
        Width
                  = 975
 5
      End
      Begin VB.ComboBox CB Port
        Height
                  = 315
        Left
                 = 6960
        TabIndex
                   = 4
10
        Text
                 = "Combo1"
                  = 2040
        Top
                  = 975
        Width
      End
      Begin VB.TextBox EB IP
15
        Height
                  = 285
        Left
                 = 5400
        TabIndex
                   = 3
                  = 2040
        Top
        Width
                  = 1335
20
      Begin MSWinsockLib.Winsock Winsock1
        Left
                 = 960
        Top
                 = 2040
                    = 741
        ExtentX
25
        _ExtentY
                    = 741
        Version
                   = 393216
      End
      Begin MSCommLib.MSComm MSComm1
        Left
                 = 240
30
                 = 2040
        Top
                   = 847
        ExtentX
        ExtentY
                   = 847
         Version
                   = 393216
                   = -1 'True
        DTREnable
35
        InputLen
                   = 1
        RThreshold
                    = 2
        SThreshold
                    = 1
      End
      Begin VB.CommandButton B Watch
40
        Caption
                   = "Watch"
        Height
                  = 495
        Left
                 = 2520
        TabIndex
                  = 2
        Top
                 = 2040
45
        Width
                  = 1455
      End
```

```
Begin VB.ComboBox CB ComF1
        Height
                    = 315
        Left
                   = 4320
        Style
                   = 2 'Dropdown List
 5
                     = 1
        TabIndex
        Top
                   = 2040
        Width
                    = 855
       End
       Begin VB.ListBox LB Triggers
10
        BeginProperty Font
          Name
                      = "Courier New"
          Size
                    = 8.25
          Charset
                      = 0
          Weight
                      = 400
15
          Underline
                      = 0 'False
          Italic
                    = 0 'False
          Strikethrough = 0 'False
        EndProperty
        Height
                    = 1740
20
        Left
                   = 120
        TabIndex
                     = 0
        Top
                   = 120
        Width
                    = 11175
       End
25
     End
     Attribute VB Name = "FrmLine21Watch"
     Attribute VB GlobalNameSpace = False
     Attribute VB Creatable = False
     Attribute VB PredeclaredId = True
     Attribute VB Exposed = False
30
     Dim Loading As Boolean
     Dim running As Boolean
     Dim COMF As String
     Dim SyncFlag As Boolean
35
     Dim SyncCount As Integer
     Dim mes As String * 1024
     Option Explicit
40
     Private Sub B_Watch_Click()
      If running = False Then
       B Watch.Caption = "Stop"
       LB Triggers.Clear
       Line21Decode 0, 0, mes
45
       SyncFlag = False
```

SyncCount = 0

```
running = True
       If COMF <> "LAN" Then
        MSComm1.CommPort = Val(Right(COMF, 1))
        MSComm1.Settings = "9600,N,8,1"
        MSComm1.PortOpen = True
5
       Else
        Winsock1.RemoteHost = EB_IP.Text
        Winsock1.RemotePort = CB_Port.Text
        Winsock1.Connect
10
       End If
      Else
       B_Watch.Caption = "Watch"
       running = False
       If COMF <> "LAN" Then
        MSComm1.PortOpen = False
15
        Winsock1.Close
       End If
      End If
20
     End Sub
     Private Sub CB_ComF1_Click()
      Dim I As Integer
      Dim temp As String
25
       If Loading = False Then
        Loading = True
        COMF = CB_ComF1.List(CB_ComF1.ListIndex)
        If COMF = "LAN" Then
30
         EB IP.Enabled = True
         CB Port.Enabled = True
        Else
         EB IP.Enabled = False
         CB Port.Enabled = False
35
        End If
        Loading = False
       End If
      End Sub
40
      Private Sub Form_Load()
       Dim temp As String
       Dim I As Integer
45
       Loading = True
```

```
running = False
      COMF = GetSetting(APPNAME, SETTING, TCOMF, "COM1")
      For I = 1 To 4
       temp = "COM" + Format(I)
       CB ComF1.AddItem (temp)
5
       If COMF = temp Then
        CB ComF1.ListIndex = CB_ComF1.ListCount - 1
       End If
      Next I
      CB ComF1.AddItem ("LAN")
10
      If COMF = "LAN" Then
       CB_ComF1.ListIndex = CB_ComF1.ListCount - 1
       EB IP.Enabled = True
       CB Port.Enabled = True
15
      Else
       EB IP.Enabled = False
       CB Port.Enabled = False
      End If
      EB_IP.Text = GetSetting(APPNAME, SETTING, IP, "223.223.223.120")
      For I = 2000 To 9000 Step 1000
20
       CB Port.AddItem (Format(I))
      Next I
      CB_Port.Text = GetSetting(APPNAME, SETTING, PORT, "3000")
       Loading = False
25
     End Sub
      Private Sub Form_Unload(Cancel As Integer)
       SaveSetting APPNAME, SETTING, TCOMF, COMF
       SaveSetting APPNAME, SETTING, IP, EB_IP.Text
30
       SaveSetting APPNAME, SETTING, PORT, CB_Port.Text
      End Sub
      Private Sub MSComm1_OnComm()
35
       Dim Trig As Long
       Dim status As Integer
       Static Num As Integer
       Static Dat As String
       Dim C<sub>0</sub> As Long
40
       Dim C1 As Long
       Dim C2 As Long
       status = MSComm1.CommEvent
       If status = 2 And running = True Then
45
                                     'Getting is sync is real ugly
        If SyncFlag = False Then
```

```
'We watch for the protocol characters
         SyncCount = SyncCount + 1
         If SyncCount = 1 Then
          MSComm1.InBufferCount = 0
         Else
                                          'and keep track of whether data is from
          Dat = MSComm1.Input
5
                                       'field 1, field 2 or both.
          Select Case Asc(Dat)
                                    'We want to start capturing data on field 1
           Case 17, 129
                                      'if both fields or at the start of the
             Protocol.Value = 1
             If Field1. Value = 0 And Field2. Value = 1 Then
              Num = 3
10
             Else
              Num = 0
             End If
                                     'field data.
             Field1.Value = 1
            Case 18, 130
15
             Protocol. Value = 1
             Num = 0
             Field2.Value = 1
                                    'If it is not protocol data then we must
            Case 148, 28
             If SyncCount > 2 And Protocol.Value = 0 Then
20
                                      'decide on the field based on the control
              Field1.Value = 1
                                    'codes.
              Num = 1
             End If
            Case 21, 157, 1, 2, 131, 4, 133, 134, 7, 8, 137, 138, 11, 140, 13, 14, 143
             If SyncCount > 2 And Protocol. Value = 0 Then
25
              Field2.Value = 1
              Num = 1
             End If
            Case Else
             Num = Num + 1
30
           End Select
           If SyncCount > 5 And (Field1.Value = 1 Or Field2.Value = 1) And Num = 2 Then
            SyncFlag = True
            If Protocol. Value = 1 Then
              MSComm1.InputLen = 3
35
            Else
              MSComm1.InputLen = 2
            End If
           End If
          End If
 40
         Else
          Dat = MSComm1.Input
          If Protocol. Value = 1 Then
           C0 = CByte(Asc(Left(Dat, 1)))
           C1 = CByte(Asc(Mid(Dat, 2, 1))) And 127
 45
           C2 = CByte(Asc(Right(Dat, 1))) And 127
```

```
Else
          If Field1. Value = 1 Then
           C0 = 129
          Else
           C0 = 130
5
          End If
         End If
         Select Case C0
          Case 129, 17
            Trig = Line21Decode(1, C1, mes)
10
            If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
             LB_Triggers.AddItem (mes)
            End If
            Trig = Line21Decode(1, C2, mes)
            If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
15
             LB_Triggers.AddItem (mes)
            End If
           Case 130, 18
            Trig = Line21Decode(2, C1, mes)
            If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
20
             LB_Triggers.AddItem (mes)
            End If
            Trig = Line21Decode(2, C2, mes)
            If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
             LB_Triggers.AddItem (mes)
25
            End If
          End Select
         End If
       End If
      End Sub
30
      Private Sub Winsock1_DataArrival(ByVal bytesTotal As Long)
        Static InputLen As Integer
        Static Num As Integer
35
        Static Dat As String
        Dim Trig As Long
        Dim C<sub>0</sub> As Long
        Dim C1 As Long
        Dim C2 As Long
 40
        If running = True Then
         If InputLen < 1 Or InputLen > 3 Then
          InputLen = 1
 45
         End If
         While Winsock1.BytesReceived >= InputLen
```

```
'Getting in sync is real ugly
         If SyncFlag = False Then
          SyncCount = SyncCount + 1
                                            'We watch for the protocol characters
          If SyncCount = 1 Then
           MSComm1.InBufferCount = 0
5
                                          'and keep track of whether data is from
            Winsock1.GetData Dat, , 1
                                       'field 1, field 2 or both.
            Select Case Asc(Dat)
                                    'We want to start capturing data on field 1
             Case 17, 129
                                      'if both fields or at the start of the
              Protocol. Value = 1
              If Field1.Value = 0 And Field2.Value = 1 Then
10
               Num = 3
              Else
               Num = 0
              End If
                                       'field data.
              Field 1. Value = 1
15
             Case 18, 130
              Protocol. Value = 1
              Num = 0
              Field2.Value = 1
                                      'If it is not protocol data then we must
             Case 148, 28
20
              If SyncCount > 2 And Protocol.Value = 0 Then
                                       'decide on the field based on the control
                Field1.Value = 1
               Num = 1
                                     'codes.
              End If
             Case 21, 157, 1, 2, 131, 4, 133, 134, 7, 8, 137, 138, 11, 140, 13, 14, 143
25
              If SyncCount > 2 And Protocol. Value = 0 Then
                Field2.Value = 1
                Num = 1
               End If
             Case Else
30
               Num = Num + 1
            End Select
            If SyncCount > 5 And (Field1.Value = 1 Or Field2.Value = 1) And Num = 2 Then
              SyncFlag = True
              If Protocol. Value = 1 Then
35
               InputLen = 3
              Else
               InputLen = 2
              End If
            End If
40
           End If
          Else
            Winsock1.GetData Dat, , InputLen
            If Protocol. Value = 1 Then
             C0 = CByte(Asc(Left(Dat, 1)))
 45
             C1 = CByte(Asc(Mid(Dat, 2, 1))) And 127
```

C2 = CByte(Asc(Right(Dat, 1))) And 127

If Field1. Value = 1 Then

```
End If
                                                                                                Select Case C0
                                                                                                     Case 129, 17
                                          10
                                                                                                            Trig = Line21Decode(1, C1, mes)
                                                                                                            If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
                                                                                                                 LB_Triggers.AddItem (mes)
                                                                                                            End If
                                                                                                            Trig = Line21Decode(1, C2, mes)
                                           15
If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
LB Triggers.AddItem (mes)
1,5
                                                                                                              End If
-
                                                                                                        Case 130, 18
Trig = Line21Decode(2, C1, mes)
                                            20
                                                                                                             If \overline{Mid}(mes, 1, 1) \Leftrightarrow Chr(0) Then
                                                                                                                   LB Triggers.AddItem (mes)
The state of the s
                                                                                                              End If
                                                                                                              Trig = Line21Decode(2, C2, mes)
                                                                                                              If Mid(mes, 1, 1) \Leftrightarrow Chr(0) Then
                                             25
                                                                                                                    LB Triggers.AddItem (mes)
                                                                                                                End If
                                                                                                   End Select
                                                                                              End If
                                              30
                                                                                        Wend
                                                                                  End If
```

Else

Else

5

C0 = 129

C0 = 130End If

35

End Sub

File: FrmLine21Watch.log

- 5 Line 15: Class MSCommLib.MSComm of control MSComm1 was not a loaded control class.
 - Line 18: The property name _ExtentX in MSComm1 is invalid.
 - Line 19: The property name _ExtentY in MSComm1 is invalid.
 - Line 20: The property name _Version in MSComm1 is invalid.
 - Line 21: The property name DTREnable in MSComm1 is invalid.
- 10 Line 22: The property name RThreshold in MSComm1 is invalid.

```
File: Funt.c
     Copyright © 2000 I LOVE TV INC. (868970 Ontario Inc.)
     All rights reserved
5
     #include <windows.h>
     #include <stdio.h>
10
     #include <string.h>
     #include "L21Dec.h"
     #include "sMachine.h"
     extern char MaxLength[CLASSMAX][RECORDMAX];
15
     extern\ char\ MinLength [CLASSMAX] [RECORDMAX];
     extern char XDSMes[CLASSMAX][RECORDMAX][MESLEN];
     extern void (*XDSDisp[CLASSMAX][RECORDMAX])();
     extern char *CType[];
20
     // When we start an XDS record we must remember which class it is from
     int XDSBegin(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
       cStatePtr->XDSClass = (ch - 1) / 2;
25
       return(TRUE);
       }
      // We art starting the XDS record so we must remember the record. If the record is
      // already open then we should give an overwrite error. Prepare the XDS data structure
30
      // for the record.
      int XDSStart(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
       cStatePtr->XDSRecord = ch;
35
       if(cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord]. Open == TRUE) \\
        strcpy(mes, XDSSTART);
        strcat(mes, XDSMes[cStatePtr->XDSClass][cStatePtr->XDSRecord]);\\
        strcat(mes,OVERWRITE);
40
       cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Open = TRUE;
       cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Length = 0;
       cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].CheckSum = cStatePtr-
      >XDSClass * 2 + 1 + ch;
45
        return(TRUE);
```

```
}
          // When we continue an XDS record we must save the record type. We check to see if the
          // record is open. If it is not then we give an error message and open it as if this
         // was a start.
 5
          int XDSCont(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
             cStatePtr->XDSRecord = ch;
             if(cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Open == FALSE)
10
               strcpy(mes,XDSSTART);
               strcat(mes,XDSMes[cStatePtr->XDSClass][cStatePtr->XDSRecord]);
               strcat(mes,CONTNOSTART);
               cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Open = TRUE;
15
               cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord]. Length=0; \\
               cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord]. CheckSum = cStatePtr->XDSRecord]. CheckSum = cS
           >XDSClass * 2 + 1 + ch;
                }
             return(TRUE);
20
           // When a character arrives for the XDS record we must add it to the checksum. We check
           // to see if this makes the record longer than the max length for this record. If not
           // then we store the data for this record and increment the record length.
25
            int XDSData(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
              cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord]. CheckSum += ch; \\
              30
            MaxLength[cStatePtr->XDSClass][cStatePtr->XDSRecord])\\
                 cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Data[cStatePtr-
            >XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Length] = ch;
              cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord]. Length++;\\
               return(TRUE);
 35
               }
            // When we close an XDS record we must check to see that we have received enough data,
            // that we have not received too much data and that the checksum is valid. Any of these
            // will cause error messages. If the record is OK then display the XDS data. This is
 40
            // done through a look-up table of routines so each XDS record can be displayed
             // differently.
             int XDSEnd(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
 45
               cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Open = FALSE;
```

```
if(cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Length <
             MinLength[cStatePtr->XDSClass][cStatePtr->XDSRecord])
                   strcpy(mes,XDSSTART);
                   strcat(mes,XDSMes[cStatePtr->XDSClass][cStatePtr->XDSRecord]);
  5
                   strcat(mes,TOOSHORT);
                else if(cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Length >
              MaxLength[cStatePtr->XDSClass][cStatePtr->XDSRecord])
10
                   strcpy(mes,XDSSTART);
                   strcat(mes,XDSMes[cStatePtr->XDSClass][cStatePtr->XDSRecord]);
                   strcat(mes,TOOLONG);
                   }
15
                 else
                   if (((cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord]. CheckSum + ((cStatePtr->XDSRecord) + ((cStatePtr->XDSRe
              XDSEND + ch) & 0x7f) != 0
                       strcpy(mes,XDSSTART);
20
                       strcat(mes,XDSMes[cStatePtr->XDSClass][cStatePtr->XDSRecord]);
                       strcat(mes,BADCHECKSUM);
                       }
                    else
                       XDSDisp[cStatePtr->XDSClass][cStatePtr->XDSRecord](mes, cStatePtr);
25
                 return(TRUE);
                  }
              // When we get a control character (0x10 to 0x1f) we must save it so we can use
 30
               // it as part of a control pair with the next character.
               int ControlSave(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
                  cStatePtr->CurrentCtrl[field - 1] = ch;
 35
                  return(TRUE);
               // For each of the four possible streams for each field we must maintain a buffer of
               // the characters that have arrived for the stream. We will detect the "end of a caption
 40
               // and dump the caption as a message.
                int DataSave(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
                   int f, c, m;
 45
```

```
f = field - 1;
               c = cStatePtr->Channel[f];
               m = cStatePtr->Mode[f];
               if(cStatePtr->TextLength[f][c][m] < 255)
         5
                 cStatePtr->Text[f][c][m][cStatePtr->TextLength[f][c][m]] = ch; \\
                 cStatePtr->TextLength[f][c][m]++;
                return(TRUE);
        10
              // There are different types of captions. We store the type of caption for the stream.
              int PopOnDecode(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
        15
1
                int f;
Ü,
                f = field - 1;
į.
                cStatePtr->Mode[f] = CAP;
W.
                if(cStatePtr->CurrentCtrl[f] < 0x18)
         20
cStatePtr->Channel[f] = C1;
                 cStatePtr->Type[f][C1] = POPUP;
25
                else
                 cStatePtr->Channel[f] = C2;
                 cStatePtr->Type[f][C2] = POPUP;
ļ.sīz
         30
                return(TRUE);
                }
               int RollUpDecode(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
                int f, c;
         35
                f = field - 1;
                 cStatePtr->Mode[f] = CAP;
                 if(cStatePtr->CurrentCtrl[f] < 0x18)
         40
                  c = C1;
                 else
                  c = C2;
                 cStatePtr->Channel[f] = c;
                 if(ch == 0x25)
                  cStatePtr->Type[f][c] = ROLLUP2;
         45
                 if(ch == 0x26)
```

45

```
cStatePtr->Type[f][c] = ROLLUP3;
      if(ch == 0x27)
        cStatePtr->Type[f][c] = ROLLUP4;
      return(TRUE);
5
     int PaintOnDecode(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
       int f;
10
       f = field - 1;
       cStatePtr->Mode[f] = CAP;
       if(cStatePtr->CurrentCtrl[f] < 0x18)
        cStatePtr->Channel[f] = C1;
15
        cStatePtr->Type[f][C1] = PAINTON;
        }
       else
        cStatePtr->Channel[f] = C2;
20
        cStatePtr->Type[f][C2] = PAINTON;
       return(TRUE);
25
      int EndOfCaptionDecode(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
       {
       int f;
30
       f = field - 1;
       cStatePtr->Mode[f] = CAP;
       if(cStatePtr->CurrentCtrl[f] < 0x18)
         cStatePtr->Channel[f] = C1;
         cStatePtr->Type[f][C1] = POPUP;
35
         }
        else
         cStatePtr->Channel[f] = C2;
         cStatePtr->Type[f][C2] = POPUP;
40
        return(TRUE);
        }
      // If the stream is not a caption stream then it is a text stream and should be marked
```

// as such. The type does not applie to the stream if it is a text stream.

```
int TextDecode(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
      int f;
5
       f = field - 1:
       cStatePtr->Mode[f] = TXT;
       if(cStatePtr->CurrentCtrl[f] < 0x18)
        cStatePtr->Channel[f] = C1;
10
        cStatePtr->Channel[f] = C2;
       return(TRUE);
     // URLs are a special use of the T2 stream. We track the T2 stream outside of the
      // regular text streams so that we can monitor it for the URL checksum which we use
      // to determine the end of the URL.
      int URLDecode(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
20
       cStatePtr->Mode[0] = TXT;
       cStatePtr->Channel[0] = C2;
       return(TRUE);
25
      // This is a tricky one. It is possible to change streams with a mid row code. In this
      // case we change where we put text.
      int ChannelChange(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
30
        {
       int f;
        f = field - 1;
        if((ch >= 0x20) && (ch <= 0x3f))
35
         if(cStatePtr->CurrentCtrl[f] < 0x18)
          cStatePtr->Channel[f] = C1;
          cStatePtr->Channel[f] = C2;
40
        return(TRUE);
      // This is where we figure out what the current stream is an create a message which
      // includes the stream type, the caption type (if applicable) and the text we have
45
       // captured for this stream. We will call this if: we get a control pair carriage
```

```
// return, we get a possitioning code pair (PAC) or we see a checksum in the URL
     // stream.
     int DumpText(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
 5
      int f, c, m;
      f = field - 1;
       m = cStatePtr->Mode[f];
       c = cStatePtr->Channel[f];
10
      if(cStatePtr->TextLength[f][c][m] > 0)
        if(field == FIELD1)
         if(m == CAP)
15
           if(c == C1)
            strcpy(mes, C1START);
            strcat(mes, CType[cStatePtr->Type[f][c]]);
20
           else
            strcpy(mes, C2START);
            strcat(mes, CType[cStatePtr->Type[f][c]]);
25
           }
          else
           if(c == C1)
30
            strcpy(mes, T1START);
            strcat(mes, SEVENSP);
35
           else
             strcpy(mes, T2START);
             streat(mes, SEVENSP);
 40
         else
          if(m == CAP)
 45
```

if(c == C1)

```
strcpy(mes, C3START);
                                                                                                                  strcat(mes, CType[cStatePtr->Type[f][c]]);
                                                      5
                                                                                                             else
                                                                                                                    strcpy(mes, C4START);
                                                                                                                    strcat(mes, CType[cStatePtr->Type[f][c]]);
                                                                                                                    }
                                                 10
                                                                                                        else
                                                                                                             if(c == C1)
                                                                                                                    strcpy(mes, T3START);
                                                 15
strcat(mes, SEVENSP);
                                                                                                                      }
                                                                                                               else
i në
strcpy(mes, T4START);
                                                  20
                                                                                                                      strcat(mes, SEVENSP);
The state of the s
                                                                                                                }
                                                                                                   c \\ \dot{S} tatePtr-> Text[f][c][m][cStatePtr-> TextLength[f][c][m]] = 0;
                                                    25
                                                                                                   streat(mes, cStatePtr->Text[f][c][m]);
                                                                                                   cStatePtr->TextLength[f][c][m] = 0;
return(TRUE);
                                                    30
```

```
File: L21Dec.c
     Copyright © 2000 I LOVE TV INC. (868970 Ontario Inc.)
     All rights reserved
5
     #include "windows.h"
     #include "stdio.h"
     #include "L21Dec.h"
10
     #include "sMachine.h"
     extern SVAL DataState[];
     extern unsigned char parity[];
15
     struct cState CCstate;
     struct cState *cStatePtr;
     #pragma warning(disable: 4133)
20
     BOOL APIENTRY DllMain(HANDLE hInst, DWORD ul_reason_being_called, LPVOID
     lpReserved)
       {
       return 1;
       UNREFERENCED PARAMETER(hInst);
25
       UNREFERENCED PARAMETER(ul_reason_being_called);
       UNREFERENCED PARAMETER(lpReserved);
       }
       declspec(dllexport) LONG APIENTRY Line21Decode(long field, unsigned char ch, char
30
     mes[])
       {
       int i, j;
       if(field == 0) // Reset the finate state machine
35
        cStatePtr = &CCstate;
        cStatePtr->NextState[0] = DataState;
        cStatePtr->NextState[1] = DataState;
        cStatePtr->Channel[0] = C1;
40
        cStatePtr->Channel[1] = C1;
        cStatePtr->Mode[0] = CAP;
        cStatePtr->Mode[1] = CAP;
        for(i = 0; i < CLASSMAX; i++)
45
         for(j = 0; j < RECORDMAX; j++)
```

```
cStatePtr->XDS[i][j].Open = FALSE;
         }
       else if((field == 2) || (field == 1))
 5
        ch \&= 0x7f;
        mes[0] = 0;
        stateMachine(field, ch, mes);
         }
10
       return(0);
      void stateMachine(long field, unsigned char ch, char mes[])
15
       SVAL *cstate;
          This is the state machine driver. Each possible branch of a state
          starts with a test. If the test is passed then the functions of that
20
          branch are executed. The end of functions is indicated by a NULL
          pointer. After the NULL pointer is a pointer to the next state. The
          whole state is a single array containing sets of, the state test,
          the functions for that state branch and the next state. The test of the last
          set must be the default test which always returns true.
25
       */
        cstate = cStatePtr->NextState[field - 1];
        while(TRUE)
         if(cstate++->fptr(field, ch, mes, cStatePtr)) // Do the test for this branch
30
                                        // Passed so execute all its functions
          while(*cstate->fptr)
            cstate++->fptr(field, ch, mes, cStatePtr);
35
          cStatePtr->NextState[field - 1] = (cstate +1)->dptr; // Then return pointer to the next state
          break;
           }
                                   // Failed this branch test so
          else
40
                                           // Skip over its functions
           while(*cstate++->fptr)
                                     // Skip the state change to the
           cstate++;
                                  // start of the next branch set
 45
```

```
__declspec(dllexport) LONG APIENTRY ShiftRight(unsigned long value, long shift)
{
    return(value >> shift);
5    }

__declspec(dllexport) LONG APIENTRY ShiftLeft(unsigned long value, long shift)
    {
        return(value << shift);
    }

10    }</pre>
```

File: L21Dec.def

LIBRARY Line21

5

CODE PRELOAD MOVEABLE DISCARDABLE DATA PRELOAD SINGLE

10 EXPORTS
Line21Decode
ShiftRight
ShiftLeft

15

File: L21Dec.h

```
declspec(dllexport) LONG APIENTRY Line21Decode(long field, unsigned char ch, char
     mess[]);
        declspec(dllexport) LONG APIENTRY ShiftRight(unsigned long, long);
 5
        declspec(dllexport) LONG APIENTRY ShiftLeft(unsigned long, long);
      void stateMachine(long field, unsigned char ch, char mes[]);
      void Def(char mes[], struct cState *);
      void Vcp(char mes[], struct cState *);
10
      void Typ(char mes[], struct cState *);
      int XDSBegin(long field, unsigned char ch, char mes[], struct cState *);
      int XDSStart(long field, unsigned char ch, char mes[], struct cState *);
      int XDSCont(long field, unsigned char ch, char mes[], struct cState *);
15
      int XDSStart(long field, unsigned char ch, char mes[], struct cState *);
      int XDSData(long field, unsigned char ch, char mes[], struct cState *);
      int XDSEnd(long field, unsigned char ch, char mes[], struct cState *);
      int ChannelChange(long field, unsigned char ch, char mes[], struct cState *);
      int DumpText(long field, unsigned char ch, char mes[], struct cState *);
20
      int ControlSave(long field, unsigned char ch, char mes[], struct cState *);
      int PopOnDecode(long field, unsigned char ch, char mes[], struct cState *);
      int DataSave(long field, unsigned char ch, char mes[], struct cState *);
      int RollUpDecode(long field, unsigned char ch, char mes[], struct cState *);
      int PaintOnDecode(long field, unsigned char ch, char mes[], struct cState *);
25
      int TextDecode(long field, unsigned char ch, char mes[], struct cState *);
      int URLDecode(long field, unsigned char ch, char mes[], struct cState *);
      int DefaultTest(long field, unsigned char ch, char mes[], struct cState *);
      int NullTest(long field, unsigned char ch, char mes[], struct cState *);
30
      int F1XDSTest(long field, unsigned char ch, char mes[], struct cState *);
      int ControlTest(long field, unsigned char ch, char mes[], struct cState *);
      int XDSStartTest(long field, unsigned char ch, char mes[], struct cState *);
      int XDSContTest(long field, unsigned char ch, char mes[], struct cState *);
      int XDSEndTest(long field, unsigned char ch, char mes[], struct cState *);
35
       int RollUpTest(long field, unsigned char ch, char mes[], struct cState *);
       int PopOnTest(long field, unsigned char ch, char mes[], struct cState *);
       int PaintOnTest(long field, unsigned char ch, char mes[], struct cState *);
       int EndOfCaptionTest(long field, unsigned char ch, char mes[], struct cState *);
       int TextModeTest(long field, unsigned char ch, char mes[], struct cState *);
40
       int PACTest(long field, unsigned char ch, char mes[], struct cState *);
       int CRTest(long field, unsigned char ch, char mes[], struct cState *);
       int CtrlChangeTest(long field, unsigned char ch, char mes[], struct cState *);
       int URLTest(long field, unsigned char ch, char mes[], struct cState *);
       int URLEndTest(long field, unsigned char ch, char mes[], struct cState *);
45
```

```
File: Line21.mak
    # Microsoft Developer Studio Generated NMAKE File, Format Version 40001
    # ** DO NOT EDIT **
5
    # TARGTYPE "Win32 (x86) Dynamic-Link Library" 0x0102
     !IF "$(CFG)" == ""
     CFG=Line21 - Win32 Debug
    !MESSAGE No configuration specified. Defaulting to Line21 - Win32 Debug.
10
     !ENDIF
     !IF "$(CFG)" != "Line21 - Win32 Release" && "$(CFG)" != "Line21 - Win32 Debug"
     !MESSAGE Invalid configuration "$(CFG)" specified.
     !MESSAGE You can specify a configuration when running NMAKE on this makefile
15
     !MESSAGE by defining the macro CFG on the command line. For example:
     !MESSAGE
     !MESSAGE NMAKE /f "Line21.mak" CFG="Line21 - Win32 Debug"
     !MESSAGE
     !MESSAGE Possible choices for configuration are:
20
     !MESSAGE
     !MESSAGE "Line21 - Win32 Release" (based on "Win32 (x86) Dynamic-Link Library")
     !MESSAGE "Line21 - Win32 Debug" (based on "Win32 (x86) Dynamic-Link Library")
     !MESSAGE
     !ERROR An invalid configuration is specified.
25
     !ENDIF
     !IF "$(OS)" == "Windows NT"
     NULL=
30
     !ELSE
     NULL=nul
     !ENDIF
     # Begin Project
35
     # PROP Target_Last_Scanned "Line21 - Win32 Debug"
     RSC=rc.exe
     MTL=mktyplib.exe
     CPP=cl.exe
40
     !IF "$(CFG)" == "Line21 - Win32 Release"
     # PROP BASE Use MFC 0
     # PROP BASE Use Debug_Libraries 0
     # PROP BASE Output Dir "Release"
45
     # PROP BASE Intermediate Dir "Release"
```

```
# PROP BASE Target_Dir ""
     # PROP Use MFC 0
     # PROP Use Debug Libraries 0
     # PROP Output Dir "Release"
     # PROP Intermediate Dir "Release"
     # PROP Target Dir ""
     OUTDIR=.\Release
     INTDIR=.\Release
     ALL: "$(OUTDIR)\Line21.dll"
10
     CLEAN:
           -@erase ".\Release\Line21.dll"
           -@erase ".\Release\XDSROM.obj"
           -@erase ".\Release\stable.obj"
15
           -@erase ".\Release\L21Dec.obj"
           -@erase ".\Release\XDSMessages.obj"
           -@erase ".\Release\Tests.obj"
           -@erase ".\Release\funct.obj"
            -@erase ".\Release\Parity.obj"
20
           -@erase ".\Release\Line21.lib"
           -@erase ".\Release\Line21.exp"
     "$(OUTDIR)":
       if not exist "$(OUTDIR)/$(NULL)" mkdir "$(OUTDIR)"
25
     \# ADD BASE CPP /nologo /MT /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D
     " WINDOWS"/YX/c
     \bar{\text{\#}} ADD CPP /nologo /MT /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /YX
30
     CPP_PROJ=/nologo /MT /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS"\
      /Fp"(INTDIR)/Line21.pch" /YX /Fo"(INTDIR)/" /c
     CPP OBJS=.\Release/
     CPP SBRS=
     # ADD BASE MTL /nologo /D "NDEBUG" /win32
35
     # ADD MTL /nologo /D "NDEBUG" /win32
     MTL PROJ=/nologo /D "NDEBUG" /win32
     # ADD BASE RSC /1 0x409 /d "NDEBUG"
     # ADD RSC /1 0x409 /d "NDEBUG"
     BSC32=bscmake.exe
40
     # ADD BASE BSC32 /nologo
     # ADD BSC32 /nologo
     BSC32 FLAGS=/nologo/o"$(OUTDIR)/Line21.bsc"
      BSC32 SBRS=
45
     LINK32=link.exe
```

```
# ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
     advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo
     /subsystem:windows /dll /machine:I386
     # ADD LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib advapi32.lib
     shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo
     /subsystem:windows/dll/machine:I386
     LINK32 FLAGS=kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib\
     advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib\
     odbccp32.lib /nologo /subsystem:windows /dll /incremental:no\
     /pdb:"$(OUTDIR)/Line21.pdb" /machine:I386 /def:".\L21Dec.def"\
10
      /out:"$(OUTDIR)/Line21.dll" /implib:"$(OUTDIR)/Line21.lib"
     DEF_FILE= \
            ".\L21Dec.def"
     LINK32 OBJS=\
            "$(INTDIR)/XDSROM.obj" \
15
            "$(INTDIR)/stable.obj" \
            "$(INTDIR)/L21Dec.obj" \
            "$(INTDIR)/XDSMessages.obj" \
            "$(INTDIR)/Tests.obj" \
            "$(INTDIR)/funct.obj" \
20
            "$(INTDIR)/Parity.obj"
     "$(OUTDIR)\Line21.dll": "$(OUTDIR)" $(DEF_FILE) $(LINK32_OBJS)
        $(LINK32) @<<
25
       $(LINK32 FLAGS) $(LINK32 OBJS)
      <<
      !ELSEIF "$(CFG)" == "Line21 - Win32 Debug"
      # PROP BASE Use MFC 0
30
      # PROP BASE Use Debug_Libraries 1
      # PROP BASE Output Dir "Debug"
      # PROP BASE Intermediate_Dir "Debug"
      # PROP BASE Target Dir ""
      # PROP Use MFC 0
35
      # PROP Use_Debug_Libraries 1
      # PROP Output Dir "Debug"
      # PROP Intermediate Dir "Debug"
      # PROP Target Dir ""
      OUTDIR=.\Debug
40
      INTDIR=.\Debug
      ALL: "$(OUTDIR)\Line21.dll"
 45
      CLEAN:
             -@erase ".\Debug\vc40.pdb"
```

```
-@erase ".\Debug\vc40.idb"
           -@erase ".\Debug\Line21.dll"
           -@erase ".\Debug\stable.obj"
           -@erase ".\Debug\L21Dec.obj"
           -@erase ".\Debug\XDSMessages.obj"
5
           -@erase ".\Debug\Tests.obj"
           -@erase ".\Debug\Parity.obj"
           -@erase ".\Debug\funct.obj"
            -@erase ".\Debug\XDSROM.obj"
            -@erase ".\Debug\Line21.ilk"
10
            -@erase ".\Debug\Line21.lib"
            -@erase ".\Debug\Line21.exp"
            -@erase ".\Debug\Line21.pdb"
     "$(OUTDIR)":
15
       if not exist "$(OUTDIR)/$(NULL)" mkdir "$(OUTDIR)"
     # ADD BASE CPP /nologo /MTd /W3 /Gm /GX /Zi /Od /D "WIN32" /D "_DEBUG" /D
     " WINDOWS"/YX/c
     # ADD CPP /nologo /MTd /W3 /Gm /GX /Zi /Od /D "WIN32" /D " DEBUG" /D
20
     " WINDOWS"/YX/c
     CPP_PROJ=/nologo /MTd /W3 /Gm /GX /Zi /Od /D "WIN32" /D "_DEBUG" /D
     " WINDOWS"\
      \overline{/} Fp "\$(INTDIR)/Line21.pch" /YX /Fo "\$(INTDIR)/" /Fd "\$(INTDIR)/" /c
     CPP OBJS=.\Debug/
25
     CPP SBRS=
     # ADD BASE MTL /nologo /D "_DEBUG" /win32
     # ADD MTL /nologo /D " DEBUG" /win32
     MTL PROJ=/nologo /D " DEBUG" /win32
     # ADD BASE RSC /l 0x409 /d " DEBUG"
30
     # ADD RSC /1 0x409 /d "_DEBUG"
      BSC32=bscmake.exe
      # ADD BASE BSC32 /nologo
      # ADD BSC32 /nologo
      BSC32 FLAGS=/nologo/o"$(OUTDIR)/Line21.bsc"
35
      BSC32 SBRS=
      LINK32=link.exe
      # ADD BASE LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
      advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo
      /subsystem:windows /dll /debug /machine:I386
40
      # ADD LINK32 kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib advapi32.lib
      shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo
      /subsystem:windows /dll /debug /machine:I386
      LINK32_FLAGS=kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib\
      advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib\
45
```

odbccp32.lib /nologo /subsystem:windows /dll /incremental:yes\

```
/pdb:"$(OUTDIR)/Line21.pdb" /debug /machine:I386 /def:".\L21Dec.def"\
     /out:"$(OUTDIR)/Line21.dll" /implib:"$(OUTDIR)/Line21.lib"
    DEF FILE=\
          ".\L21Dec.def"
    LINK32 OBJS=\
5
          "$(INTDIR)/stable.obj" \
          "$(INTDIR)/L21Dec.obj" \
           "$(INTDIR)/XDSMessages.obj" \
           "$(INTDIR)/Tests.obj" \
           "$(INTDIR)/Parity.obj" \
10
           "$(INTDIR)/funct.obj" \
           "$(INTDIR)/XDSROM.obj"
     "\$(OUTDIR) \land Line 21.dll": "\$(OUTDIR)" \$(DEF\_FILE) \$(LINK 32\_OBJS)
      $(LINK32) @<<
15
      $(LINK32 FLAGS) $(LINK32_OBJS)
     !ENDIF
20
     .c{$(CPP_OBJS)}.obj:
      $(CPP) $(CPP PROJ) $<
     .cpp{$(CPP OBJS)}.obj:
      $(CPP) $(CPP PROJ) $<
25
     .cxx{$(CPP OBJS)}.obj:
      $(CPP) $(CPP PROJ) $<
     .c{$(CPP_SBRS)}.sbr:
30
       $(CPP) $(CPP PROJ) $<
     .cpp{$(CPP_SBRS)}.sbr:
       $(CPP) $(CPP PROJ) $<
35
     .cxx{$(CPP SBRS)}.sbr:
       $(CPP) $(CPP PROJ) $<
     #####
40
     # Begin Target
     # Name "Line21 - Win32 Release"
     # Name "Line21 - Win32 Debug"
45
     !IF "$(CFG)" == "Line21 - Win32 Release"
```

```
!ELSEIF "$(CFG)" == "Line21 - Win32 Debug"
   !ENDIF
5
   #####
   # Begin Source File
   SOURCE=.\Tests.c
10
   DEP CPP TESTS=\
       ".\Smachine.h"\
       ".\L21Dec.h"\
15
   "\$(INTDIR)\Tests.obj":\$(SOURCE)\ \$(DEP\_CPP\_TESTS)\ "\$(INTDIR)"
   # End Source File
   20
   # Begin Source File
   SOURCE=.\L21Dec.c
   DEP\_CPP\_L21DE=\setminus
25
       ".\L21Dec.h"\
       ".\Smachine.h"\
   "$(INTDIR)\L21Dec.obj" : $(SOURCE) $(DEP_CPP_L21DE) "$(INTDIR)"
30
   # End Source File
   #####
35
   # Begin Source File
   SOURCE=.\Parity.c
   "$(INTDIR)\Parity.obj" : $(SOURCE) "$(INTDIR)"
40
    # End Source File
    45
    #####
    # Begin Source File
```

```
SOURCE=.\stable.c
   DEP CPP STABL=\
        ".\Smachine.h"\
5
        ".\L21Dec.h"\
   "$(INTDIR)\stable.obj": $(SOURCE) $(DEP_CPP_STABL) "$(INTDIR)"
10
   # End Source File
   # Begin Source File
15
   SOURCE=.\funct.c
   DEP CPP FUNCT=\
        ".\L21Dec.h"\
        ".\Smachine.h"\
20
   "$(INTDIR)\funct.obj": $(SOURCE) $(DEP_CPP_FUNCT) "$(INTDIR)"
25
   # End Source File
   #####
   # Begin Source File
30
   SOURCE=.\L21Dec.def
   !IF "$(CFG)" == "Line21 - Win32 Release"
   !ELSEIF "$(CFG)" == "Line21 - Win32 Debug"
35
   !ENDIF
   # End Source File
   40
   #####
   # Begin Source File
   SOURCE=.\XDSROM.c
   DEP_CPP_XDSRO=\
        ".\L21Dec.h"\
45
        ".\Smachine.h"\
```

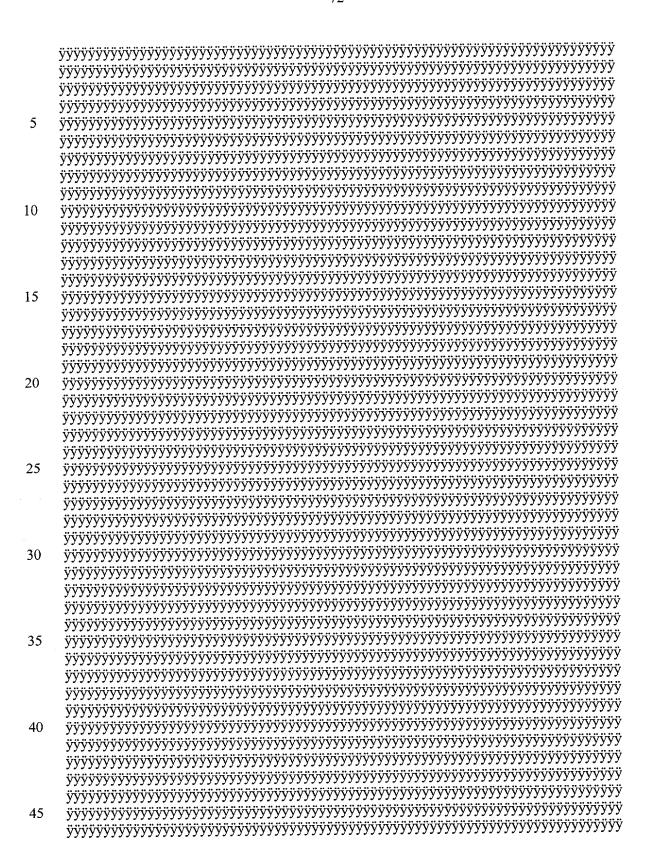
```
"$(INTDIR)\XDSROM.obj": $(SOURCE) $(DEP_CPP_XDSRO) "$(INTDIR)"
5
   # End Source File
   #####
   # Begin Source File
10
   SOURCE=.\XDSMessages.c
   DEP_CPP_XDSME=\
       ".\L21Dec.h"\
       ".\Smachine.h"\
15
   "$(INTDIR)\XDSMessages.obj": $(SOURCE) $(DEP_CPP_XDSME) "$(INTDIR)"
20
   # End Source File
   # End Target
   # End Project
   #####
25
```

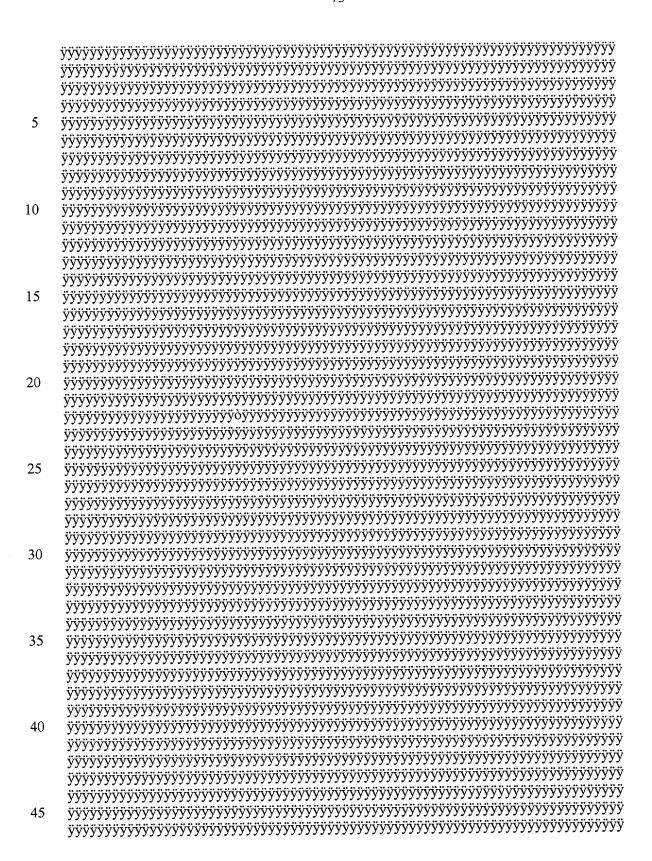
File: Line21.mdp

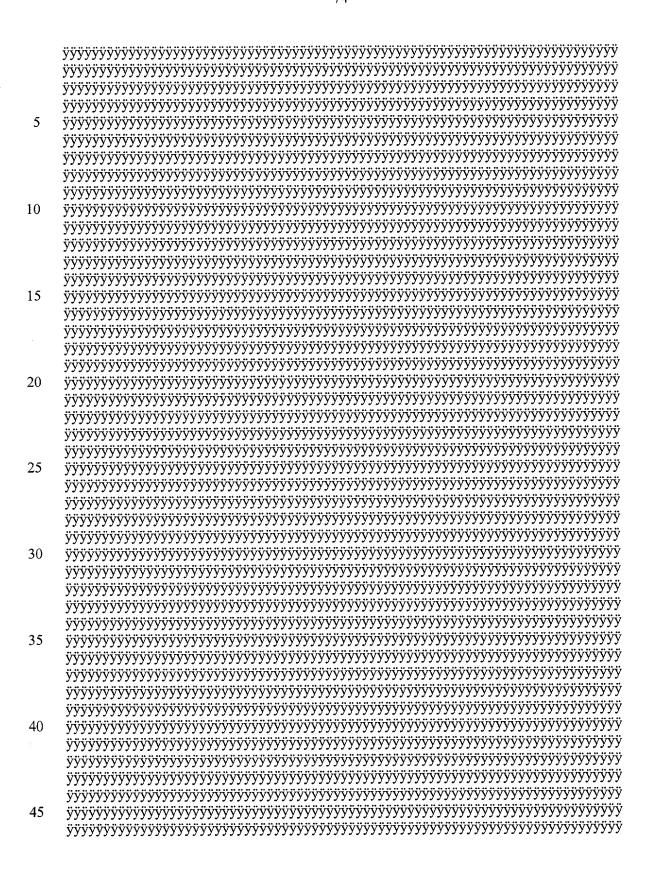
```
5
       10
       15
       20
       25
       30
       ÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿ __vcbks40.mvb0_(_15 Œçs<mE& Œçs0¤m_
                     b0 ( 15 ΍s<mE& Œçs0¤m_
                   35
                AœË]___ÿÿÿÿ__Watch1_Watch2_Watch3_Watch4MLJL15 Œçs<mE& Œçs0\\\ m#$\%
        &'()*+ A@__LINE21 - WIN32 DEBUG__{(nologo /MTd /W3 /Gm /GX /Zi /Od /D
        "WIN32" /D"_DEBUG" /D "_WINDOWS" /Fp"Debug/Line21.pch" /YX /Fo"Debug/"
       /Fd"Debug/" /c __/nologo /D "_DEBUG" /win32 __/l 0x409 /d "_DEBUG" __/nologo
        /o"Debug/Line21.bsc" _ÿ2_kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
40
        advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo
        /subsystem:windows /dll /incremental:yes /pdb:"Debug/Line21.pdb" /debug /machine:I386
        /def:".\L21Dec.def" /out:"Debug/Line21.dll" /implib:"Debug/Line21.lib"
        J:\Vb60\Line21\Tests.c___J:\Vb60\Line21\L21Dec.c___J:\Vb60\Line21\Parity.c___J:\Vb6
        \label{lem:condition} \hline 0 \land Line 21 \land Line 2
45
        XDSROM.c_ J:\Vb60\Line21\XDSMessages.c_ LINE21 - WIN32 RELEASE_j/nologo
```

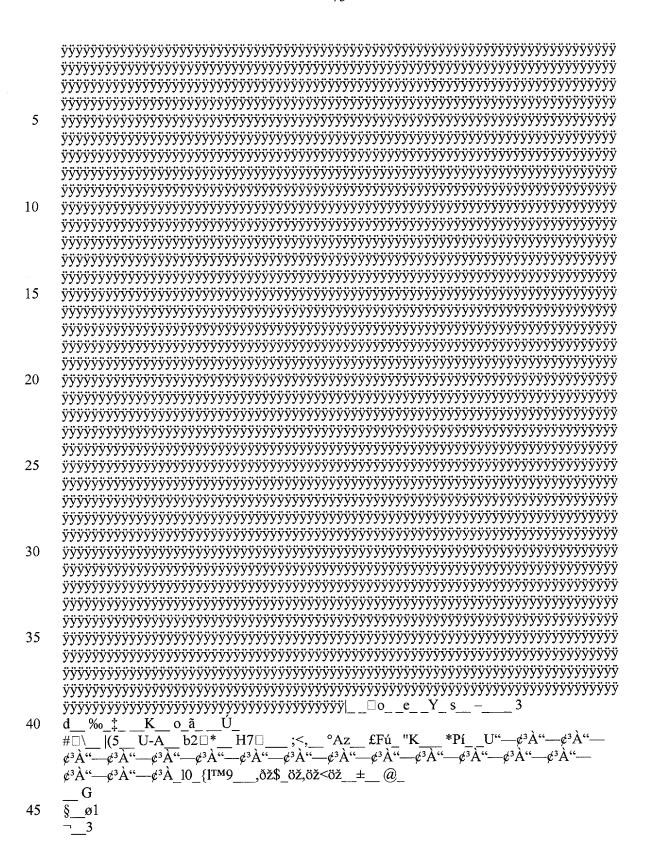
```
/MT /W3 /GX /O2 /D "WIN32" /D "NDEBUG" /D "_WINDOWS" /Fp"Release/Line21.pch"
          /YX /Fo"Release/" /c __/nologo /D "NDEBUG" /win32 __/l 0x409 /d "NDEBUG" __/nologo
          /o"Release/Line21.bsc"_ÿ0_kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
          advapi32.lib shell32.lib ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo
          /subsystem:windows /dll /incremental:no /pdb:"Release/Line21.pdb" /machine:I386
          /def:".\L21Dec.def" /out:"Release/Line21.dll" /implib:"Release/Line21.lib"
            J:\Vb60\Line21\Tests.c J:\Vb60\Line21\L21Dec.c J:\Vb60\Line21\Parity.c
                                                0\Line21\stable.c
          XDSROM.c J:\Vb60\Line21\XDSMessages.c Line21 - Win32 Release
          Line21.mak CProject Line21 - Win32 Release Line21 - Win32 Release ê Line21 -
10
                                                  SSBR CTargetItem SSBR
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           Win32 Debug ê
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                                                  SSBR
                                                               SSBR
                                      CFileItem
           .\L21Dec.c
                                                               SSBR
                                      CFileItem
           .\Parity.c
                                                                                                          CFileItem SSBR.\L21Dec.def_
                                      CFileItem
                                                           SSBR .\funct.c
           .\stable.c
15
                         CFileItem
                                                 SSBR
                                                                             SSBR .\XDSMessages.c
                                                    CFileItem
           .\XDSROM.c
                        CFileItem SSBR dep CDependencyContainer SSBR
           Smachine.h_CDependencyFile__SSBR_L21Dec.h_CDependencyFile__SSBR__DJW_
                                                                        SSBR
           dep CDependencyContainer
20
                                                                            SSBR L21Dec.h CDependencyFile SSBR DJW
           Smachine.h CDependencyFile
                DJW DJWE& Œcst\u22a456789
                m_LINE21 - WIN32 DEBUG__{/nologo /MTd /W3 /Gm /GX /Zi /Od /D "WIN32" /D
               DEBUG" /D "_WINDOWS" /Fp"Debug/Line21.pch" /YX /Fo"Debug/" /Fd"Debug/" /c
                /nologo /D "_DEBUG" /win32 __/l 0x409 /d "_DEBUG" __/nologo /o"Debug/Line21.bsc"
25
            ÿ2_kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib advapi32.lib shell32.lib
            ole32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo /subsystem:windows /dll
            /incremental:yes /pdb:"Debug/Line21.pdb" /debug /machine:I386 /def:".\L21Dec.def"
            /out:"Debug/Line21.dll" /implib:"Debug/Line21.lib"
                                                               J:\Vb60\Line21\L21Dec.c__ J:\Vb60\Line21\Parity.c__ J:\Vb6
 30
             J:\Vb60\Line21\Tests.c
            0 \land Line 21 \land 
                                        J:\Vb60\Line21\XDSMessages.c__LINE21 - WIN32 RELEASE_j/nologo
            XDSROM.c
            /MT/W3/GX/O2/D "WIN32" /D "NDEBUG" /D "_WINDOWS" /Fp"Release/Line21.pch"
            /YX /Fo"Release/" /c __/nologo /D "NDEBUG" /win32 __/l 0x409 /d "NDEBUG" __/nologo
            /o"Release/Line21.bsc"_ÿ0_kernel32.lib user32.lib gdi32.lib winspool.lib comdlg32.lib
 35
            advapi32.lib shell32.lib oleaut32.lib oleaut32.lib uuid.lib odbc32.lib odbccp32.lib /nologo
            /subsystem:windows /dll /incremental:no /pdb:"Release/Line21.pdb" /machine:I386
            /def:".\L21Dec.def" /out:"Release/Line21.dll" /iE& ΍st\fm;<=>?@ABC
```

File: Line21.ncb

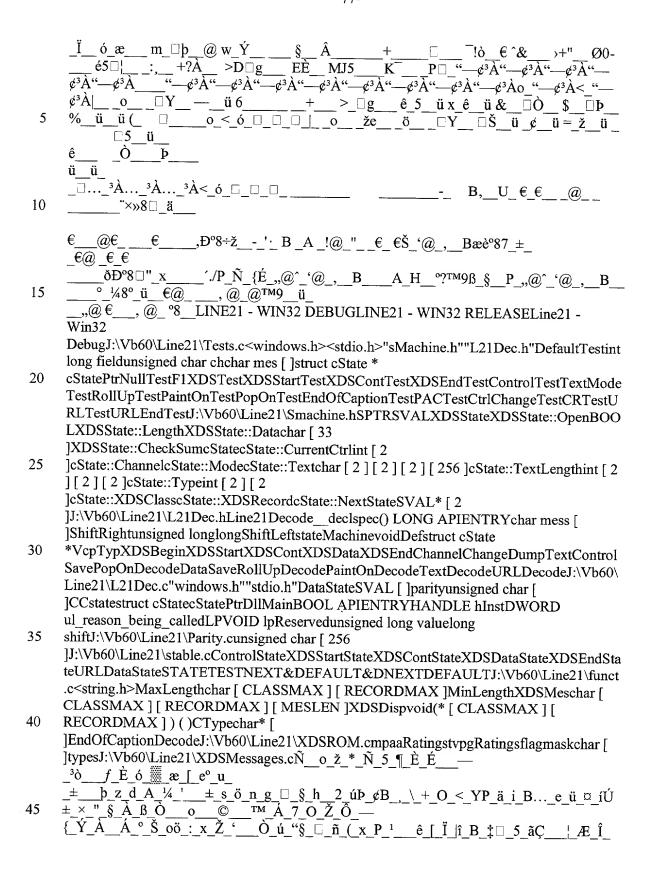


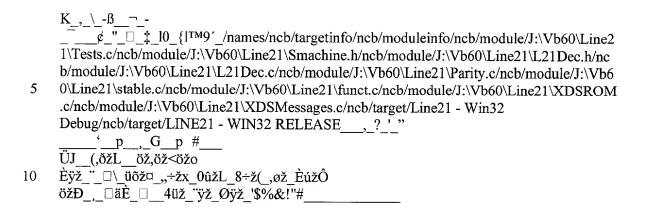






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    \Box n = Y
                     x 2^{TM} o C^1 C \hat{O} \tilde{n}' - c^{3'}  \check{Z} \Box ... - c^3 x : 
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35
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    ^{\circ}\check{z}^{1/4} \ ^{"21/4} \ \underline{g}^{'1/4} \ \P" \ \underline{8}\,\check{z} \\ @ \ ,- \ 7^{1} \ \underline{\emptyset} \ !^{\circ |} \ i \rangle | \ 1^{1/4} \\ \square | \ \underline{j1/2} \ \underline{W}^{3/4} \ \underline{V}_{\dot{\zeta}} \\ \square | \ \underline{}
    0\dot{A}, \dot{A}\dot{A}, \dot{A}\dot{A}, \dot{A}\dot{A}, \dot{A}\dot{A}, \dot{A}\dot{A}, \dot{A}\dot{A}, \dot{A}\dot{A}, \dot{A}\dot{A}
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```





File: Line21Def.bas

Attribute VB_Name = "Line21Def"

Public Const APPNAME As String = "Line21Watch"
Public Const SETTING As String = "Settings"
Public Const TCOMF As String = "COMF"
Public Const IP As String = "IP"
Public Const PORT As String = "Port"

Option Explicit

15

Declare Function Line21Decode Lib "Line21.dll" _
(ByVal field As Long, ByVal ch As Byte, ByVal mes As String) _
As Long

Declare Function ShiftRight Lib "Line21.dll" _ (ByVal Val As Long, ByVal Shift As Long) As Long

 File: Line21Watch.vbp

Type=Exe

5 Reference=*\G{00020430-0000-0000-C000-000000000046}#2.0#0#C:\WINDOWS\SYSTEM\StdOle2.tlb#OLE Automation Object={648A5603-2C6E-101B-82B6-00000000014}#1.1#0; MSCOMM32.OCX Object={248DD890-BB45-11CF-9ABC-0080C7E7B78D}#1.0#0; MSWINSCK.OCX Form=FrmLine21Watch.frm

10 Module=Line21Def; Line21Def.bas

Startup="FrmLine21Watch"

HelpFile=""

Command32=""

Name="Line21Watch"

15 HelpContextID="0"

CompatibleMode="0"

MajorVer=1

MinorVer=0

RevisionVer=0

20 AutoIncrementVer=0

ServerSupportFiles=0

VersionCompanyName="norpak"

CompilationType=0

OptimizationType=0

25 FavorPentiumPro(tm)=0

CodeViewDebugInfo=0

NoAliasing=0

BoundsCheck=0

OverflowCheck=0

30 FlPointCheck=0

FDIVCheck=0

UnroundedFP=0

StartMode=0

Unattended=0

35 Retained=0

ThreadPerObject=0

MaxNumberOfThreads=1

File: Line21Watch.vbw

FrmLine21Watch = 115, 120, 649, 565, C, 46, 48, 580, 493, C

5 Line21Def = 69, 72, 603, 517, C

File: Parity.c

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5 All rights reserved

```
unsigned char parity[256] = {
10
       0x80, 0x01, 0x02, 0x83, 0x04, 0x85, 0x86, 0x07,
       0x08, 0x89, 0x8a, 0x0b, 0x8c, 0x0d, 0x0e, 0x8f,
       0x10, 0x91, 0x92, 0x13, 0x94, 0x15, 0x16, 0x97,
       0x98, 0x19, 0x1a, 0x9b, 0x1c, 0x9d, 0x9e, 0x1f,
       0x20, 0xa1, 0xa2, 0x23, 0xa4, 0x25, 0x26, 0xa7,
15
       0xa8, 0x29, 0x2a, 0xab, 0x2c, 0xad, 0xae, 0x2f,
       0xb0, 0x31, 0x32, 0xb3, 0x34, 0xb5, 0xb6, 0x37,
       0x38, 0xb9, 0xba, 0x3b, 0xbc, 0x3d, 0x3e, 0xbf,
       0x40, 0xc1, 0xc2, 0x43, 0xc4, 0x45, 0x46, 0xc7,
       0xc8, 0x49, 0x4a, 0xcb, 0x4c, 0xcd, 0xce, 0x4f,
20
       0xd0, 0x51, 0x52, 0xd3, 0x54, 0xd5, 0xd6, 0x57,
       0x58, 0xd9, 0xda, 0x5b, 0xdc, 0x5d, 0x5e, 0xdf,
       0xe0, 0x61, 0x62, 0xe3, 0x64, 0xe5, 0xe6, 0x67,
       0x68, 0xe9, 0xea, 0x6b, 0xec, 0x6d, 0x6e, 0xef,
       0x70, 0xf1, 0xf2, 0x73, 0xf4, 0x75, 0x76, 0xf7,
25
       0xf8, 0x79, 0x7a, 0xfb, 0x7c, 0xfd, 0xfe, 0x7f,
       0x80, 0x01, 0x02, 0x83, 0x04, 0x85, 0x86, 0x07,
       0x08, 0x89, 0x8a, 0x0b, 0x8c, 0x0d, 0x0e, 0x8f,
       0x10, 0x91, 0x92, 0x13, 0x94, 0x15, 0x16, 0x97,
       0x98, 0x19, 0x1a, 0x9b, 0x1c, 0x9d, 0x9e, 0x1f,
30
       0x20, 0xa1, 0xa2, 0x23, 0xa4, 0x25, 0x26, 0xa7,
       0xa8, 0x29, 0x2a, 0xab, 0x2c, 0xad, 0xae, 0x2f,
       0xb0, 0x31, 0x32, 0xb3, 0x34, 0xb5, 0xb6, 0x37,
       0x38, 0xb9, 0xba, 0x3b, 0xbc, 0x3d, 0x3e, 0xbf,
       0x40, 0xc1, 0xc2, 0x43, 0xc4, 0x45, 0x46, 0xc7,
       0xc8, 0x49, 0x4a, 0xcb, 0x4c, 0xcd, 0xce, 0x4f,
35
       0xd0, 0x51, 0x52, 0xd3, 0x54, 0xd5, 0xd6, 0x57,
       0x58, 0xd9, 0xda, 0x5b, 0xdc, 0x5d, 0x5e, 0xdf,
       0xe0, 0x61, 0x62, 0xe3, 0x64, 0xe5, 0xe6, 0x67,
       0x68, 0xe9, 0xea, 0x6b, 0xec, 0x6d, 0x6e, 0xef,
40
       0x70, 0xf1, 0xf2, 0x73, 0xf4, 0x75, 0x76, 0xf7,
       0xf8, 0x79, 0x7a, 0xfb, 0x7c, 0xfd, 0xfe, 0x7f;
```

45

#define PAINTON 1 #define ROLLUP2 2

File: Smachine.h #define WINKCLASS 0x42 5 #define WINKSUMSTART WINKCLASS + 0x0D #define XDSEND 0x0F #define OVERWRITE " Error: Overwrite" #define CONTNOSTART " Error: Continue with no Start" #define TOOLONG " Error: too many bytes" 10 #define BADCHECKSUM " Error: bad check sum" #define TOOSHORT " Error: too few bytes" #define XDSSTART "XDS " #define C1START "C1" 15 #define C2START "C2 " #define T1START "T1 " #define T2START "T2 " #define C3START "C3 " 20 #define C4START "C4" #define T3START "T3 " #define T4START "T4 " #define ONESP "" #define TWOSP " " 25 #define SEVENSP " #define MPAA " MPAA - " #define TVPG " TVPG - " #define OTHER " OTHER - non-USA" #define TVPG FV ",FV" #define TVPG V ",V" 30 #define TVPG S ",S" #define TVPG L ",L" #define TVPG D ",D" 35 #define TRUE 1 #define FALSE 0 #define C1 0 #define C2 1 40 #define CAP 0 #define TXT 1 #define FIELD1 1 #define FIELD2 2 #define POPUP 0

```
#define ROLLUP3 3
      #define ROLLUP4 4
      #define T1 1
      #define T2 2
 5
      typedef int ( cdecl *FPTR)(), *SPTR;
      typedef union sval {
10
       FPTR fptr;
       SPTR dptr;
       }SVAL;
     #define CLASSMAX 7
15
     #define RECORDMAX 128
     #define MESLEN 6
     #define XDSWink 0
     #define XDSVChip 1
20
     #define XDSMax 2
     struct XDSState {
       BOOL Open;
       int Length;
25
       char Data[33];
       int CheckSum;
       };
     struct cState {
30
       int CurrentCtrl[2];
                                     // Save control character which starts pair
       int Channel[2];
                                    // Channel 1 or 2 (control high or low)
       int Mode[2];
                                    // Mode captioning or text
       char Text[2][2][2][256];
                                        // The saved text
       int TextLength[2][2][2];
                                        // The length of the saved text
       int Type[2][2];
                                    // The type of caption
35
      int XDSClass;
                                     // The current XDS class
      int XDSRecord;
                                      // The current XDS record
      struct XDSState XDS[CLASSMAX][RECORDMAX]; // stored data for current XDS state
       SVAL *NextState[2];
                                        // pointer to the next state
40
      };
     \#define STATE(x) SVAL x\#\#[] = \{
     #define TEST(x) &##x##,
     #define NEXT(x) NULL, ##x##,
     #define DEFAULT &DefaultTest,
45
     #define DNEXT(x) NULL, ##x##};
```

```
File: stable.c
     #include <windows.h>
     #include <stdio.h>
5
     #include "sMachine.h"
     #include "L21Dec.h"
     extern SVAL DataState[];
     extern SVAL ControlState[];
10
     extern SVAL XDSStartState[];
     extern SVAL XDSContState[];
     extern SVAL XDSDataState[];
     extern SVAL XDSEndState[];
15
     extern SVAL URLDataState[];
     #pragma warning(disable: 4047)
         State Tables
20
         This is what drives the state machine. Each state has one or more possible
         sub-state changes. Each of these is made up of a test followed by a list
         of functions to execute if the test passes and a new state to go to. The
         state machine tries each test in order. The first test that passes has its
         functions executed and the state changed to its next state. The state
25
         machine then exits without trying any more states. The last test on the list
         for a state must be the default test which always returns true.
30
     // State DataState
     // This state is to go when we have text data
     //
      STATE(DataState)
35
       TEST(NullTest) NEXT(DataState)
       TEST(F1XDSTest) NEXT(DataState)
       TEST(XDSStartTest) &XDSBegin, NEXT(XDSStartState)
       TEST(XDSContTest) &XDSBegin, NEXT(XDSContState)
       TEST(XDSEndTest) NEXT(XDSEndState)
40
       TEST(ControlTest) & ControlSave, NEXT(ControlState)
       DEFAULT & DataSave, DNEXT(DataState)
      // State ControlState
      // In this state we have received a control character and the next
45
      // character will decide what action we should take. Warning the control
      // pair may be repeated but in this case we do not care. Normally you
```

```
// require extra states to filter out repeats.
      STATE(ControlState)
       TEST(NullTest) NEXT(ControlState)
 5
       TEST(F1XDSTest) NEXT(DataState)
       TEST(XDSStartTest) &XDSBegin, NEXT(XDSStartState)
       TEST(XDSContTest) &XDSBegin, NEXT(XDSContState)
       TEST(XDSEndTest) NEXT(XDSEndState)
      TEST(ControlTest) & ControlSave, NEXT(ControlState)
10
      TEST(PopOnTest) & PopOnDecode, NEXT(DataState)
      TEST(RollUpTest) &RollUpDecode, NEXT(DataState)
      TEST(PaintOnTest) & PaintOnDecode, NEXT(DataState)
      TEST(URLTest) & URLDecode, NEXT(URLDataState)
      TEST(TextModeTest) &TextDecode, NEXT(DataState)
15
      TEST(EndOfCaptionTest) & PopOnDecode, NEXT(DataState)
      TEST(PACTest) & DumpText, NEXT(DataState)
      TEST(CRTest) & Channel Change, & DumpText, NEXT(DataState)
      TEST(CtrlChangeTest) & ChannelChange, NEXT(DataState)
      DEFAULT DNEXT(DataState)
20
     // State XDSStartState
     // In this case we have received a an XDS Undefined Start character (0D)
     // The next character determines which class function to execute.
25
     STATE(XDSStartState)
      TEST(NullTest) NEXT(XDSStartState)
      DEFAULT &XDSStart, DNEXT(XDSDataState)
     // State XDSContState
30
     // In this case we have received a an XDS Undefined Continue character (0E)
     // The next character determines which class function to execute.
     STATE(XDSContState)
      TEST(NullTest) NEXT(XDSContState)
35
      DEFAULT &XDSCont, DNEXT(XDSDataState)
     // State XDSDataState
     // In this state we have received the first character of
     // the XDS stream. Want to stay in this state until
40
     // we have receive the full XDS Message.
     STATE(XDSDataState)
      TEST(XDSEndTest) NEXT(XDSEndState)
      TEST(XDSStartTest) &XDSBegin, NEXT(XDSStartState)
      TEST(XDSContTest) &XDSBegin, NEXT(XDSContState)
45
      TEST(ControlTest) & ControlSave, NEXT(ControlState)
```

DEFAULT &XDSData, DNEXT(XDSDataState)

```
// State XDSEndState
// We have received the XDS end command (0f) we need to fetch the
```

5 // checksum and then we are done and have recieved the full message.

STATE(XDSEndState) DEFAULT &XDSEnd, DNEXT(DataState)

10 // State URLDataState // This state is to go when we have T2 (URL) data //

STATE(URLDataState)

TEST(NullTest) NEXT(URLDataState)
TEST(F1XDSTest) NEXT(URLDataState)
TEST(XDSStartTest) &XDSBegin, NEXT(XDSStartState)
TEST(XDSContTest) &XDSBegin, NEXT(XDSContState)
TEST(XDSEndTest) NEXT(XDSEndState)

TEST(ControlTest) &ControlSave, NEXT(ControlState)
TEST(URLEndTest) &DataSave, &DumpText, NEXT(URLDataState)
DEFAULT &DataSave, DNEXT(URLDataState)

45

```
File: Tests.c
     #include <windows.h>
 5
     #include <stdio.h>
     #include "sMachine.h"
     #include "L21Dec.h"
     int DefaultTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
10
       return(TRUE);
      int NullTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
15
       if(ch == 0x00)
        return(TRUE);
       else
        return(FALSE);
20
      int F1XDSTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
       if((ch < 0x10) && (field == FIELD1))
25
        return(TRUE);
       else
        return(FALSE);
30
      int XDSStartTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
       if((ch > 0) && (ch < 0x0f) && ((ch & 1) == 1))
        return(TRUE);
35
       else
        return(FALSE);
      int XDSContTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
40
       if((ch > 0) && (ch < 0x0f) && ((ch & 1) == 0))
         return(TRUE);
       else
         return(FALSE);
```

```
int XDSEndTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
        if(ch == 0x0f)
         return(TRUE);
  5
        else
         return(FALSE);
        }
10
       int ControlTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
        if((ch > 0x0f) && (ch < 0x20))
         return(TRUE);
        else
15
         return(FALSE);
       int TextModeTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
20
       int c;
       c = cStatePtr->CurrentCtrl[field - 1];
       if((c == 0x14) || (c == 0x15) || (c == 0x1c) || (c == 0x1d))
25
         if((ch == 0x2a) || (ch == 0x2b))
          return(TRUE);
       return(FALSE);
30
      int RollUpTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
       int c;
35
       c = cStatePtr->CurrentCtrl[field - 1];
       if((c = 0x14) || (c = 0x15) || (c = 0x1c) || (c = 0x1d))
        if((ch > 0x24) && (ch < 0x28))
          return(TRUE);
40
       return(FALSE);
      int PaintOnTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
45
       int c;
```

```
c = cStatePtr->CurrentCtrl[field - 1];
       if((c == 0x14) || (c == 0x15) || (c == 0x1c) || (c == 0x1d))
 5
        if(ch == 0x29)
         return(TRUE);
       return(FALSE);
10
      int PopOnTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
       int c;
       c = cStatePtr->CurrentCtrl[field - 1];
       if((c == 0x14) || (c == 0x15) || (c == 0x1c) || (c == 0x1d))
        if(ch == 0x20)
         return(TRUE);
20
       return(FALSE);
       }
      int EndOfCaptionTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
25
        {
       int c;
       c = cStatePtr->CurrentCtrl[field - 1];
       if((c == 0x14) || (c == 0x15) || (c == 0x1c) || (c == 0x1d))
30
        if(ch == 0x2f)
          return(TRUE);
       return(FALSE);
35
      int PACTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
       int c;
40
       c = cStatePtr->CurrentCtrl[field - 1];
       if((c > 0xf) && (c < 0x20))
         if(ch > 0x3f)
45
          return(TRUE);
```

```
return(FALSE);
                             int CtrlChangeTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
         5
                                 int f, c, ctrl;
                                 f = field - 1;
                                  c = cStatePtr->Channel[f];
   10
                                 ctrl = cStatePtr->CurrentCtrl[f];
                                if(((ch > 0x1f) \&\& (ch < 0x40)) \&\& (((ctrl < 0x18) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (c != C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > 0x17) \&\& (ctrl > C1)) \\ \parallel ((ctrl > C1) \&\& (ctrl > C1)) \\ \parallel ((ctrl > C1) \&\& (ctrl > C1)) \\ \parallel ((ctrl > C1) \&\& (ctrl > C1)) \\ \parallel ((ctrl > C1) \&\& (ctrl > C1)) \\ \parallel ((ctrl > C1) \&\& (ctrl > C1)) \\ \parallel ((ctrl > C1) \&\& (ctrl > C1)) \\ \parallel ((ctrl > C1) \&\& (ctrl > C1)) \\ \parallel ((ctrl > C1) \&\& (ctrl > C1)) \\ \parallel ((ctrl > C1) \&\& (ctrl > C1)
                             C2))))
                                     return(TRUE);
                                 else
   15
                                     return(FALSE);
                            int CRTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
                                 {
   20
                                int c;
                                c = cStatePtr->CurrentCtrl[field - 1];
                                if((c == 0x14) \parallel (c == 0x15) \parallel (c == 0x1c) \parallel (c == 0x1d))
 25
                                    if(ch == 0x2d)
                                         return(TRUE);
                               return(FALSE);
 30
                          int URLTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
                                {
                               int c;
 35
                               c = cStatePtr->CurrentCtrl[field - 1];
                               if((field == FIELD1) && (c == 0x1c))
                                   if((ch == 0x2a) || (ch == 0x2b))
                                       return(TRUE);
 40
                              return(FALSE);
                               }
                         int URLEndTest(long field, unsigned char ch, char mes[], struct cState *cStatePtr)
45
                             int f, 1;
```

```
char *t;
                                                                                                                                        f = field - 1;
                                                                                                                                     1 = cStatePtr->TextLength[f][C2][TXT];
                5
                                                                                                                                     t = cStatePtr->Text[f][C2][TXT];
                                                                                                                                        if(1 > 5)
                                                                                                                                                                  if((ch == ']') && (t[1-5] == '['))
                                                                                                                                                                                         \inf(((t[1\text{-}4] >= '0') \&\& \ (t[1\text{-}4] <= '9')) \parallel ((t[1\text{-}4] >= 'A') \&\& \ (t[1\text{-}4] <= 'F')) \parallel ((t[1\text{-}4] >= 'a')) \parallel ((t[1\text{-}4] <= 'B')) \parallel ((t[1\text{-}4] <= 'B'))) \parallel ((t[1\text{-}4] <= 'B')) \parallel ((t[1\text{-}4] <= 'B'))) \parallel ((t[1\text{-}4] <= 'B')) \parallel ((t[1\text{-}4] <=
                                                                                                                    && (t[1-4] <= 'f')))
10
                                                                                                                                                                                                               if(((t[1\text{-}3] >= '0') \&\& (t[1\text{-}3] <= '9')) \parallel ((t[1\text{-}3] >= 'A') \&\& (t[1\text{-}3] <= 'F')) \parallel ((t[1\text{-}3] >= 'a')) \parallel ((t[1\text{-}3] >= 'a')) \parallel ((t[1\text{-}3] <= 'B')) \parallel ((t[1\text{-}3] <= 'B'))) \parallel ((t[1\text{-}3] <= 'B'))) \parallel ((t[1\text{-}3] <= 'B')) \parallel ((t[1\text{-}3] <= 'B'))) \parallel ((t[1\text{-}3] <= 'B'
                                                                                                                    && (t[1-3] \le 'f')))
                                                                                                                                                                                                                                             if(((t[1-2]>='0') \&\& (t[1-2]<='9')) \parallel ((t[1-2]>='A') \&\& (t[1-2]<='F')) \parallel ((t[1-2]>='a')) \parallel ((t[1-2]>
                                                                                                                    && (t[1-2] \le 'f')))
                                                                                                                                                                                                                                                                 if(((t[l-1]>= '0') \&\& (t[l-1]<= '9')) \parallel ((t[l-1]>= 'A') \&\& (t[l-1]<= 'F')) \parallel ((t[l-1]>= 'A') \&\& (t[l-1]<= 'F')) \parallel ((t[l-1]>= 'A') \&\& (t[l-1]<= 'A') \&\& (t[l-1]<= 'B')) \parallel ((t[l-1]>= 'B'))) \parallel ((t[l-1]>= 'B')) \parallel ((t[l-1]>= 'B')) \parallel ((t[l-1]>= 'B')) \parallel ((t[l-1]>= 'B')) \parallel ((t[l-1]>= 'B'))) \parallel ((t[l-1]>= 'B')) \parallel ((t[l-1]>= 'B'))) \parallel ((t[l-1]>= 'B')))
15
                                                                                                                    'a') && (t[1-1] <= 'f')))
                                                                                                                                                                                                                                                                                          return(TRUE);
                                                                                                                                           return(FALSE);
20
                                                                                                                                              }
```

```
File: XDSMessages.c
     #include <windows.h>
     #include <stdio.h>
     #include <string.h>
     #include "L21Dec.h"
     #include "sMachine.h"
     extern char XDSMes[CLASSMAX][RECORDMAX][MESLEN];
     extern char *mpaaRatings[];
10
     extern char *tvpgRatings[];
     extern char flagmask[];
     extern char *types[];
15
     void Def(char mes[], struct cState *cStatePtr)
       strcpy(mes,XDSSTART);
       strcat(mes,XDSMes[cStatePtr->XDSClass][cStatePtr->XDSRecord]);
       strcat(mes, TWOSP);
       cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Data[cStatePtr-
20
     >XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Length] = 0;
       strcat(mes, cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Data);
25
     void Vcp(char mes[], struct cState *cStatePtr)
       char b1, b2, type;
       char flags;
30
       strcpy(mes,XDSSTART);
       strcat(mes,XDSMes[cStatePtr->XDSClass][cStatePtr->XDSRecord]);
       b1 = cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Data[0];
       b2 = cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Data[1];
       type = ((b1 >> 3) & 3);
       if((type == 0) || (type == 2)) //MPAA
35
        strcat(mes, MPAA);
        strcat(mes, mpaaRatings[b1 & 7]);
40
       else if(type == 1) // TVPG
        strcat(mes, TVPG);
        strcat(mes, tvpgRatings[b2 & 7]);
        flags = (b1 >> 5) \& 1;
        flags = flags | ((b2 \& 0x38) >> 2);
45
        flags = flags | ((b2 \& 0x20) >> 1);
```

```
flags = flags & flagmask[b2 & 7];
        if(flags & 0x10)
         streat(mes, TVPG FV);
       if(flags & 8)
5
         strcat(mes,TVPG V);
       if(flags & 4)
         strcat(mes,TVPG_S);
        if(flags & 2)
         strcat(mes,TVPG_L);
10
        if(flags & 1)
         strcat(mes,TVPG D);
       else // Other
15
        strcat(mes, OTHER);
       }
     void Typ(char mes[], struct cState *cStatePtr)
20
       int i;
       strcpy(mes,XDSSTART);
       strcat(mes,XDSMes[cStatePtr->XDSClass][cStatePtr->XDSRecord]);
       strcat(mes, TWOSP);
25
       for (i=0; i < cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord]. Length; i++) \\
        strcat(mes, types[cStatePtr->XDS[cStatePtr->XDSClass][cStatePtr->XDSRecord].Data[i]
      -0x20);
30
        strcat(mes, ONESP);
        }
       }
```

File: XDSROM.c

```
#include <windows.h>
#include "L21Dec.h"
#include "sMachine.h"
```

```
char MaxLength[CLASSMAX][RECORDMAX] = {
{ 0, 4, 6, 32, 32, 2, 2, 8, 32, 4, 32, 32, 32, 32, 32, 32, // Current Class
10
15
{ 0, 4, 6, 32, 32, 2, 2, 8, 4, 32, 32, 32, 32, 32, 32, 32, // Future Class
20
25
30
35
40
45
```

```
5
 10
 15
 char MinLength[CLASSMAX][RECORDMAX] = {
20
 0, 0, 0, 0, 0, 0, 0, 0, 2, 2, 2, 2, 2, 2, 2, 2,
  2, 2, 2, 2, 2, 2,
           2, 2, 2, 2,
  2, 2, 2, 2, 2, 2,
  2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
           2,
           2, 2, 2,
25
  { 0, 4, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 1/Future Class
  0, 0, 0, 0, 0, 0, 0, 0, 2, 2, 2, 2, 2, 2, 2, 2,
30
      2, 2, 2, 2, 2,
           2,
            2, 2, 2,
  2, 2, 2, 2, 2, 2,
  2, 2, 2, 2, 2, 2,
            2, 2, 2,
  2, 2, 2, 2, 2, 2,
           2,
  35
  { 0, 2, 4, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 1/ Channel Class
  2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
            2,
40
  2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
            2,
  { 0, 6, 6, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, // Miscellaneous
45
```

```
5
   10
   15
   20
   25
   30
  char XDSMes[CLASSMAX][RECORDMAX][MESLEN] = {
   {"Null ", "Start", "Durat", "Show ", "Type ", "VChip", "Audio", "Capti", // Current Class
   "0108","Aspec","010A","010B","Comp1","Comp2","010E","010F",
   "Desc1", "Desc2", "Desc3", "Desc4", "Desc5", "Desc6", "Desc7", "Desc8",
35
   "0118","0119","011A","011B","011C","011D","011E","011F",
   "0120 ","0121 ","0122 ","0123 ","0124 ","0125 ","0126 ","0127 "
   "0128 ","0129 ","012A ","012B ","012C ","012D ","012E ","012F ",
   "0130 ","0131 ","0132 ","0133 ","0134 ","0135 ","0136 ","0137 "
40
   "0138 ","0139 ","013A ","013B ","013C ","013D ","013E ","013F ".
   "0140 ","0141 ","0142 ","0143 ","0144 ","0145 ","0146 ","0147 ",
   "0148 ","0149 ","014A ","014B ","014C ","014D ","014E ","014F ",
   "0150 ","0151 ","0152 ","0153 ","0154 ","0155 ","0156 ","0157 ".
   "0158 ","0159 ","015A ","015B ","015C ","015D ","015E ","015F ",
   "0160 ","0161 ","0162 ","0163 ","0164 ","0165 ","0166 ","0167 ",
45
   "0168 ","0169 ","016A ","016B ","016C ","016D ","016E ","016F ",
```

```
"0170 ","0171 ","0172 ","0173 ","0174 ","0175 ","0176 ","0177 ",
       "0178","0179","017A","017B","017C","017D","017E","017F"},
       {"0300 ","0301 ","0302 ","0303 ","0304 ","0305 ","0306 ","0307 ", // Future Class
       "0308","0309","030A","030B","030C","030D","030E","030F",
       "0310 ","0311 ","0312 ","0313 ","0314 ","0315 ","0316 ","0317 "
 5
       "0318 ","0319 ","031A ","031B ","031C ","031D ","031E ","031F ",
       "0320 ","0321 ","0322 ","0323 ","0324 ","0325 ","0326 ","0327 ",
       "0328 ","0329 ","032A ","032B ","032C ","032D ","032E ","032F ",
       "0330 ","0331 ","0332 ","0333 ","0334 ","0335 ","0336 ","0337 ",
       "0338 ","0339 ","033A ","033B ","033C ","033D ","033E ","033F ",
10
       "0340 ","0341 ","0342 ","0343 ","0344 ","0345 ","0346 ","0347 ",
       "0348 ","0349 ","034A ","034B ","034C ","034D ","034E ","034F ",
       "0350 ","0351 ","0352 ","0353 ","0354 ","0355 ","0356 ","0357 ",
       "0358 ","0359 ","035A ","035B ","035C ","035D ","035E ","035F "
       "0360 ","0361 ","0362 ","0363 ","0364 ","0365 ","0366 ","0367 ",
15
       "0368 ","0369 ","036A ","036B ","036C ","036D ","036E ","036F ",
       "0370 ","0371 ","0372 ","0373 ","0374 ","0375 ","0376 ","0377 ".
       "0378","0379","037A","037B","037C","037D","037E","037F"},
       {"0500 ","Netwk","Affil","Delay","0504 ","0505 ","0506 ","0507 ", // Channel Class
       "0508 ","0509 ","050A ","050B ","050C ","050D ","050E ","050F ",
20
       "0510 ","0511 ","0512 ","0513 ","0514 ","0515 ","0516 ","0517 ",
       "0518","0519","051A","051B","051C","051D","051E","051F",
       "0520 ","0521 ","0522 ","0523 ","0524 ","0525 ","0526 ","0527 ",
       "0528 ","0529 ","052A ","052B ","052C ","052D ","052E ","052F ",
       "0530 ","0531 ","0532 ","0533 ","0534 ","0535 ","0536 ","0537 ",
25
       "0538 ","0539 ","053A ","053B ","053C ","053D ","053E ","053F ",
       "0540 ","0541 ","0542 ","0543 ","0544 ","0545 ","0546 ","0547 ",
       "0548 ","0549 ","054A ","054B ","054C ","054D ","054E ","054F ",
       "0550 ","0551 ","0552 ","0553 ","0554 ","0555 ","0556 ","0557 "
       "0558 ","0559 ","055A ","055B ","055C ","055D ","055E ","055F "
30
       "0560 ","0561 ","0562 ","0563 ","0564 ","0565 ","0566 ","0567 ",
       "0568 ","0569 ","056A ","056B ","056C ","056D ","056E ","056F ",
       "0570 ","0571 ","0572 ","0573 ","0574 ","0575 ","0576 ","0577 ",
       "0578 ","0579 ","057A ","057B ","057C ","057D ","057E ","057F "},
       {"0700 ","Time ","Impul","Suppl","Zone ","0705 ","0706 ","0707 ", // Miscellaneous
35
       "0708 ","0709 ","070A ","070B ","070C ","070D ","070E ","070F ",
        "0710 ","0711 ","0712 ","0713 ","0714 ","0715 ","0716 ","0717 ",
        "0718 ","0719 ","071A ","071B ","071C ","071D ","071E ","071F ",
        "0720 ","0721 ","0722 ","0723 ","0724 ","0725 ","0726 ","0727 "
        "0728 ","0729 ","072A ","072B ","072C ","072D ","072E ","072F ",
40
        "0730 ","0731 ","0732 ","0733 ","0734 ","0735 ","0736 ","0737 ",
        "0738 ","0739 ","073A ","073B ","073C ","073D ","073E ","073F ",
        "OOBNB","0741 ","0742 ","0743 ","0744 ","0745 ","0746 ","0747 ",
        "0748","0749","074A","074B","074C","074D","074E","074F",
        "0750 ","0751 ","0752 ","0753 ","0754 ","0755 ","0756 ","0757 ",
45
        "0758 ","0759 ","075A ","075B ","075C ","075D ","075E ","075F ",
```

```
"0760 ","0761 ","0762 ","0763 ","0764 ","0765 ","0766 ","0767 "
             "0768 ","0769 ","076A ","076B ","076C ","076D ","076E ","076F ",
             "0770 ","0771 ","0772 ","0773 ","0774 ","0775 ","0776 ","0777 "
             "0778 ","0779 ","077A ","077B ","077C ","077D ","077E ","077F "},
            {"0900 ","0901 ","0902 ","0903 ","0904 ","0905 ","0906 ","0907 ", // Public Service
 5
             "0908 ","0909 ","090A ","090B ","090C ","090D ","090E ","090F ",
             "0910 ","0911 ","0912 ","0913 ","0914 ","0915 ","0916 ","0917 ",
              "0918 ","0919 ","091A ","091B ","091C ","091D ","091E ","091F ",
              "0920 ","0921 ","0922 ","0923 ","0924 ","0925 ","0926 ","0927 ",
              "0928 ","0929 ","092A ","092B ","092C ","092D ","092E ","092F ",
10
             "0930 ","0931 ","0932 ","0933 ","0934 ","0935 ","0936 ","0937 ",
              "0938 ","0939 ","093A ","093B ","093C ","093D ","093E ","093F ",
              "0940 ","0941 ","0942 ","0943 ","0944 ","0945 ","0946 ","0947 ",
              "0948 ","0949 ","094A ","094B ","094C ","094D ","094E ","094F ",
              "0950 ","0951 ","0952 ","0953 ","0954 ","0955 ","0956 ","0957 ",
"0958 ","0959 ","095A ","095B ","095C ","095D ","095E ","095F ",
15
              "0960 ","0961 ","0962 ","0963 ","0964 ","0965 ","0966 ","0967 ",
              "0968 ","0969 ","096A ","096B ","096C ","096D ","096E ","096F "
              "0970 ","0971 ","0972 ","0973 ","0974 ","0975 ","0976 ","0977 ",
              "0978 ","0979 ","097A ","097B ","097C ","097D ","097E ","097F "}
20
              \\ \hbox{$"0B00 ","WSCod","WSMes","0B03 ","0B04 ","0B05 ","0B06 ","0B07 ", \\ \textit{$"Reserved $$} \\ \hbox{$"Eserved $$} \\ \hbox{$"Eser
           Class
              "0B08 ","0B09 ","0B0A ","0B0B ","0B0C ","0B0D ","0B0E ","0B0F ",
              "0B10 ","0B11 ","0B12 ","0B13 ","0B14 ","0B15 ","0B16 ","0B17 ",
              "0B18","0B19","0B1A","0B1B","0B1C","0B1D","0B1E","0B1F",
25
              "0B20 ","0B21 ","0B22 ","0B23 ","0B24 ","0B25 ","0B26 ","0B27 ".
              "0B28 ","0B29 ","0B2A ","0B2B ","0B2C ","0B2D ","0B2E ","0B2F ",
              "0B30 ","0B31 ","0B32 ","0B33 ","0B34 ","0B35 ","0B36 ","0B37 ",
              "0B38 ","0B39 ","0B3A ","0B3B ","0B3C ","0B3D ","0B3E ","0B3F ",
              "0B40 ","0B41 ","0B42 ","0B43 ","0B44 ","0B45 ","0B46 ","0B47 ",
30
              "0B48 ","0B49 ","0B4A ","0B4B ","0B4C ","0B4D ","0B4E ","0B4F ",
              "0B50 ","0B51 ","0B52 ","0B53 ","0B54 ","0B55 ","0B56 ","0B57 ",
              "0B58 ","0B59 ","0B5A ","0B5B ","0B5C ","0B5D ","0B5E ","0B5F ",
              "0B60 ","0B61 ","0B62 ","0B63 ","0B64 ","0B65 ","0B66 ","0B67 ",
              "0B68 ","0B69 ","0B6A ","0B6B ","0B6C ","0B6D ","0B6E ","0B6F ",
35
              "0B70 ","0B71 ","0B72 ","0B73 ","0B74 ","0B75 ","0B76 ","0B77 ",
               "0B78 ","0B79 ","0B7A ","0B7B ","0B7C ","0B7D ","0B7E ","0B7F "},
              "0D00","0D01","0D02","0D03","0D04","0D05","0D06","0D07", // Undefined Class
               "0D08 ","0D09 ","0D0A ","0D0B ","0D0C ","0D0D ","0D0E ","0D0F ",
              "0D10 ","0D11 ","0D12 ","0D13 ","0D14 ","0D15 ","0D16 ","0D17 ",
 40
              "0D18","0D19","0D1A","0D1B","0D1C","0D1D","0D1E","0D1F",
               "0D20 ","0D21 ","0D22 ","0D23 ","0D24 ","0D25 ","0D26 ","0D27 ",
               "0D28 ","0D29 ","0D2A ","0D2B ","0D2C ","0D2D ","0D2E ","0D2F ",
               "0D30 ","0D31 ","0D32 ","0D33 ","0D34 ","0D35 ","0D36 ","0D37 ",
               "0D38 ","0D39 ","0D3A ","0D3B ","0D3C ","0D3D ","0D3E ","0D3F ",
 45
               "0D40 ","0D41 ","0D42 ","0D43 ","0D44 ","0D45 ","0D46 ","0D47 ",
```

```
"0D48 ","0D49 ","0D4A ","0D4B ","0D4C ","0D4D ","0D4E ","0D4F ",
 "0D50 ","0D51 ","0D52 ","0D53 ","0D54 ","0D55 ","0D56 ","0D57 ",
 "0D58 ","0D59 ","0D5A ","0D5B ","0D5C ","0D5D ","0D5E ","0D5F ",
 "0D60 ","0D61 ","0D62 ","0D63 ","0D64 ","0D65 ","0D66 ","0D67 ".
 "0D68 ","0D69 ","0D6A ","0D6B ","0D6C ","0D6D ","0D6E ","0D6F ",
5
 "0D70 ","0D71 ","0D72 ","0D73 ","0D74 ","0D75 ","0D76 ","0D77 ",
 "0D78 ","0D79 ","0D7A ","0D7B ","0D7C ","0D7D ","0D7E ","0D7F "}};
 void (*XDSDisp[CLASSMAX][RECORDMAX])() = {
 10
 Class
 15
 20
 Class
 25
 Class
 30
 35
 Miscellaneous
 40
 45
```

```
Service
  5
  10
 Reserved
  15
  20
 Undefined Class
  25
  char *mpaaRatings[] = {"N/A", "G", "PG", "PG-13", "R", "NC-17", "X", "Not Rated"};
  char *tvpgRatings[] = {"None", "TV-Y", "TV-Y7", "TV-G", "TV-PG", "TV-14", "TV-MA
30
  ", "None"};
  char flagmask[] = \{0, 0, 0x10, 0, 0xf, 0xf, 0xe, 0\};
  char *types[] = {
  "Education", "Entertainment", "Movie", "News", "Religious", "Sports", "OTHER",
35
  "Action",
  "Advertisement", "Animated", "Anthology", "Automobile", "Awards", "Baseball",
  "Basketball", "Bulletin",
  "Business", "Classical", "College", "Combat", "Comedy", "Commentary", "Concert",
40
  "Consumer",
  "Contemporary", "Crime", "Dance", "Documentary", "Drama", "Elementary", "Erotica",
  "Exercise".
  "Fantasy", "Farm", "Fashion", "Fiction", "Food", "Football", "Foreign", "Fund Raiser",
  "Game/Ouiz", "Garden", "Golf", "Government", "Health", "High School", "History",
  "Hobby",
45
```

```
"Hockey", "Home", "Horror", "Information", "Instruction", "International", "Interview", 
"Language",

"Legal", "Live", "Local", "Math", "Medical", "Meeting", "Military", "Miniseries",

"Music", "Mystery", "National", "Nature", "Police", "Politics", "Premiere", "Prerecorded",

"Product", "Professional", "Public", "Racing", "Reading", "Repair", "Repeat", "Review",

"Romance", "Science", "Series", "Service", "Shopping", "Soap Opera", "Special",

"Suspense",

"Talk", "Technical", "Tennis", "Travel", "Variety", "Video", "Weather", "Western"};

10 char *CType[] = {"Pop ","Paint ", "Roll2 ", "Roll3 ", "Roll4 "};
```

ExtractDB

```
File: hexdec.pl
```

5 #!/usr/bin/perl

hex dec display

\$a = sprintf "%lx",(32);

print \$a;

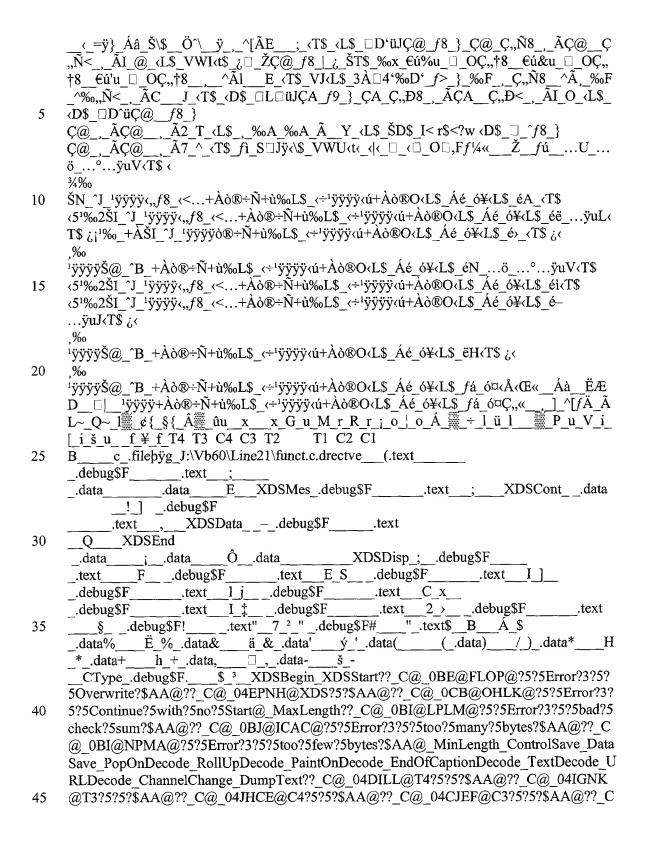
File: stamp2db.pl 5 #!/usr/bin/perl # this program access mysql DB and reads off all #or as much data as you want, #it then generates a web page to view it in raw form. 10 use DBI; my(\$dbh, \$sth); 15 \$dbh = DBI->connect('DBI:mysql:caption:localhost:3306', 'root', ") || warn "connecting: \$DBI::errstr\n"; \$sth = \$dbh->prepare("select * from raw order by recordnum"); 20 \$sth->execute(); # get all from DB 25 while(@row = \$sth->fetchrow()) { print @row[2]."\n"; \$tim=@row[1]; \$_=@row[2]; \$11=0;\$12=0; 30 $if(/^(\d)\s(\d+)\,\s*$/) {$fnum=$1; $11=$2;}$ $elsif(/^(\d)\s(\d+)\,(\d+)\,\s*$/) {$fnum=$1; $11=$2; $12=$3; }$ #else {print "OPPS".@row[2]."\n";} else {} 35 if($\$11 == 20 \parallel \$11 == 28$) && \$12 == 44) {} else 40 if(1 == (\$fnum+0)) { #print \$tim; if $(\$11 \ge 0x20 \&\& \$11 < 0x7f) \{\$out.=chr(\$11);\}$ $elsif(\$11 != 0) \{\$a = sprintf "\%lx",\$11+0;$ 45 \$out.="[".\$a."]";} if $(\$12 \ge 0x20 \&\& \$12 < 0x7f) \{ \$out.=chr(\$12); \}$

```
elsif($12 != 0) { $a = sprintf "%lx",$12+0; }
             $out.="[".$12."]";}
        #print "\n";
 5
      } # end while
      if(2 == (\$fnum+0))  {
       if (11 \ge 0x20 \& 11 < 0x7f) {0x7f} {0x7f} {0x7f}
10
             elsif($11 != 0) {$out2.="[".$11."]";}
       if ($12 \ge 0x20 \&\& $12 < 0x7f) {$0ut2.=chr($12);}
             elsif($12 != 0) {$out2.="[".$12."]";}
15
        }
20
      # write out web page with data
      open(FILE,">/usr/www/names/docs/caption_new.html");
      print FILE "<HTML>Strings or repeatitive [20], or [28], are not shown<br><font
      color=blue>Field 1</font><br>\n";
25
      $ =$out;
      # do necessary substitution to flag URL
      s < ([^<])*) > ([$1\]/g;
30
      s (20) x04/g;
      s/(\sqrt{28})*)((\sqrt{x}04)*)(\x04)\\squaresfort color=red\\>$1$2$3\\squaresfort\>/g;
      s/x04/[20]/g;
35
      $out=$_;
      print FILE $out;
      print FILE "<br><font color=blue>Field 2</font><br><\n";
40
      print FILE $out2;
      close(FILE);
```

Release

```
File: funct.obj
```

```
L .ÿl<sup>TM</sup>9D ,.drectve(D
           _text_l_P'.debug$F_%_TM_H_B.text;_£_b__P'.data__
                                                                                                                                           @ 0À.data
                          @_0A.debug$F__ / H_B.text;_9t
                 P'.data!œ
           @ 0A.debug$F ½
10
             H B.text,×
           Y P'.debug$F c s H B.textQ } Î
                 P'.data d @ 0\hata | @ 0\hata.data \ @ 0\hata.debug$F - \frac{1}{2} H B.text C
            P`.debug$F ß ï H B.textEù P`.debug$F > N H B.textIX
           P'.debug$F; ± H_B.textl» P'.debug$F 7 H_B.textCA
P'.debug$F_, "H_B.textIž P'.debug$F ç ÷ H_B.text2
           P'.debug$F 3 C H B.text M P'.debug$F m H B.text7w
           P'.debug$F ® ¾ H B.textB È
           P'.data ú @ 0À.data ÿ @ 0À.data @ 0À.data
20
                            _@_0À.data___@_0À.data___@_0À.data___@_0À.data__
             @ 0A.data % @ 0A.debug$F_*: H_B-defaultlib:LIBCMT -defaultlib:OLDNAMES
           1/4_P___...~<1$ <
             \sqrt{MS@} ^E <,H Áà ,L \Box@+\dot{A}\Box<M^1\ddot{y}\ddot{y}\ddot{y}\ddot{o}®+\tilde{N}+\dot{u}%L$ <\dot{v}1\ddot{y}\ddot{v}\ddot{y}\ddot{v}\ddot{v}<\dot{v}+\dot{A}\dot{o}®O<L$ Áé ó¥<
           A e TM Error: OverwriteXDS
                           ,‰MŠ@_^E_<,H_Áà__,L_□@+À□<M¹ÿÿÿÿò®÷Ñ+ù‰L$ <÷¹ÿÿÿÿçý+Àò®O<L$ Áé ó¥<
           L\$ f\acute{a} \acute{o} "; "\ddot{y} "\ddot{y} "\ddot{y} + \grave{A} \acute{o} "\& + \~N + \iv \& L\$ (+ "\ddot{y} "\ddot{y} "\ddot{y} "\dot{y} + \grave{A} \acute{o} "\& C L\$ f\acute{a} \acute{o} "<, H_ \acute{A} \`{a}_, L_ \acute{A} \`{a}_, L_ \acute{A} \acute{a}_, L_ \acute{A} \acute{a}
30
           A e TM Error: Continue with no
           <@<,,_T_;ð~ _Â^Œ8X_<,H__Áà_^_,L_[Áà_□@,_ÿ,,_T_ÃB!_,___
             \langle L\$\_SVW \langle \Box H\_A\grave{a}\_\Box L\_A\grave{a}\_\Box \underline{@}C,
35
           P <±H Áæ ±L <ÆÁà □ @ ¾†□<
            T;ÂŽ"‹T$;¾‰ Š^^Z ‹□H Áà □L □@+À□<M¹ÿÿÿÿò®÷Ñ+ù‹Ù‹÷¹ÿÿÿÿ‹ú+Àò®O‹
            ËÁ¢ ó¥‹Ëfá 󤿹ÿÿÿÿ+Àò®÷Ñ+ù‹Ù‹÷¹ÿÿÿÿ‹ú+Àò®O‹ËÁ¢_ó¥‹Ëfá_ó¤,__^[Ã_¾†;Â_□"‹
           40
            ó¥‹Ëfá 󤿹ÿÿÿÿ+Àò®÷Ñ+ù‹Ù‹÷¹ÿÿÿÿ‹ú+Àò®O‹ËÁé ó¥‹Ëfá ó¤, ^ſËT$ QRÿ μfÄ,
               ^[ÃA1 \ a ,, 2/ i! ÿ ' U , a O ) A 0 Error: bad check sum
45
           Error: too many bytes Error: too few
```



@_04NEMM@T2?5?5?\$AA@??_C@_07NDP@?5?5?5?5?5?5?5?\$AA@??_C@_04CCPH @T1?5?5?\$AA@??_C@_04HLFD@C2?5?5?\$AA@??_C@_04INGI@C1?5?5?\$AA@ File: L21Dec.obj

| | | Lm TM 9"_!.drectvell_ |
|---|----|---|
| | 5 | .text_8 P`.debug\$F_@ P H B.text"Z P`.debug\$F_p € H B.textzŠ_ |
| | | P'.debug\$F , < H B.text |
| | | F P'.debug\$F S c H B.text |
| | | m P'.debug\$F z \$ H B-defaultlib:LIBCMT -defaultlib:OLDNAMES - |
| | | export: Line21Decode@12 -export: ShiftRight@8 -export: ShiftLeft@8 ,_A_ |
| | 10 | ⟨T\$ SV3ÉWÒupÇ ,£P°< %,T°< %J < %J < %J < 3ö, %J < %J °€3ÿ< fÆ0J%¼3 |
| | | uíHuã3À ^[Âfú t fú u ŠL\$ ⟨D\$ €á□PQÆRèfÄ3À ^[# / 8 A Q |
| | | |
| | | f Â QWSVÿ f ÄÀu \langle AfA f 8uöfA \ddot{e} Ù f }t \langle A \langle |
| | | f Å_QWSVÿ_ f Ä_ f }uæ \langle E_ \langle |
| | 15 |]_%,,±L^^[Â"_O_j_z(D\$_ŠL\$_ÓèÂ_ |
| | | ⟨D\$ ŠL\$_ÓàÂ_ |
| | | filebÿg_J:\Vb60\Line21\L21Dec.c.drectve1_CCstateX°text |
| : | | _debug\$Ftext |
| | | _debug\$Ftext |
| | 20 | Edebug\$Ftext |
| | | — |
| | | _S |
| | | debug\$F |
| | | _`_cStatePtr_DllMain@12_Line21Decode@12_DataState_stateMachine_ShiftRight@8_Shif |
| | 25 | tLeft@8 |
| | | |

File: Line21.dll

DYNAMIC LINK LIBRARY 3 2bit for Windows 95 and Windows NT

Technical File Information:

Image File Header

10

15

___Signature: 00004550

Machine: Intel 386

Number of Sections: 0005

Time Date Stamp: 39996d0e

Symbols Pointer: 00000000 Number of Symbols: 00000000

Size of Optional Header 00e0

Characteristics: File is executable (i.e. no unresolved external references).

Line numbers stripped from file. Local symbols stripped from file.

32 bit word machine.

32 bit word machine

File is a DLL.

25

45

20

Image Optional Header

Magic: 010b Linker Version: 3.00 30 Size of Code: 00003800 Size of Initialized Data: 00012000 Size of Uninitialized Data: 0000000 Address of Entry Point: 00002680 Base of Code: 00001000 Base of Data: 35 00005000 Image Base: 10000000 Section Alignment: 00001000 File Alignment: 00000200 Operating System Version: 4.00 40 Image Version: 0.00 Subsystem Version: 4.00 Reserved1: 0000000 Size of Image: 00019000

Size of Headers:

Checksum: 00000000 Subsystem: Image runs in the Windows GUI subsystem.

00000400

| 5 | DLL Characteristics: Size of Stack Reserve: Size of Stack Commit: Size of Heap Reserve: Size of Heap Commit: Loader Flags: Size of Data Directory: Export Directory Virtual Addre Export Directory Virtual Addre Import Directory Virtual Addre Import Directory Size: Base Relocation Table Virtual Address: Base Relocation Table Size: | 00000073 |
|----|---|----------------------|
| 15 | Dase Relocation Table 5126. | 00000 |
| | Export Table | |
| 20 | Name: | Line21.dll |
| | Characteristics: | 00000000 39996d0e |
| | Time Date Stamp: Version: | 0.00 |
| | Base: | 00000001 |
| 25 | Number of Functions: | 00000003 |
| 20 | Number of Names: | 00000003 |
| | , | |
| | Ordinal Entry Point | Name |
| | 0000 00001010 | Line21Decode |
| 30 | 0001 00001150 | ShiftLeft |
| | 0002 00001140 | ShiftRight |
| 25 | Import Table | |
| 35 | KERNEL32.dll | |
| | Ordinal Function | n Name |
| | Oldinar Tanedio | |
| | 0092 GetACP | |
| 40 | 0103 GetProcAddres | ss |
| | 00eb GetModuleHar | ıdleA |
| | 0137 GetVersion | |
| | 0062 ExitProcess | 17.1 |
| | 00c7 GetCurrentThr | eadId |
| 45 | 0222 TlsSetValue | |
| | 021f TlsAlloc | |

| | 0220 | TlsFree |
|----|---------------|-----------------------|
| | 01fd | SetLastError |
| | 0221 | TlsGetValue |
| | 00e1 | GetLastError |
| 5 | 0155 | HeapCreate |
| | 0157 | HeapDestroy |
| | 01fa | SetHandleCount |
| | 00dc | GetFileType |
| | 0116 | GetStdHandle |
| 10 | 0114 | GetStartupInfoA |
| | 0044 | DeleteCriticalSection |
| | 00 e 9 | GetModuleFileNameA |
| | 0098 | GetCPInfo |
| | 009f | |
| 15 | 00f6 | |
| | 008b | |
| | 00d0 | GetEnvironmentStrings |
| | 008c | |
| | 00d2 | 9 |
| 20 | 0242 | WideCharToMultiByte |
| | 024f | |
| | 0164 | |
| | 004f | |
| | 0177 | LeaveCriticalSection |
| 25 | 0153 | HeapAlloc |
| | 0159 | HeapFree |
| | 0178 | LoadLibraryA |
| | 0083 | |
| 20 | 0016 | |
| 30 | 0206 | |
| | 01f8 | SetFilePointer |

Section Table

| | OCCUPATION TO THE OTHER | |
|----|--------------------------|-----------------------|
| 35 | | |
| | Section name: | .text |
| | Virtual Size: | 0000379Ъ |
| | Virtual Address: | 00001000 |
| | Size of raw data: | 00003800 |
| 40 | Pointer to Raw Data: | 00000400 |
| | Pointer to Relocations: | 00000000 |
| | Pointer to Line Numbers: | 00000000 |
| | Number of Relocations: | 0000 |
| | Number of Line Numbers: | 0000 |
| 45 | Characteristics: | Section contains code |
| | | |

Section is executable

Section is readable

| 51015 | Section name: Virtual Size: Virtual Address: Size of raw data: Pointer to Relocations: Pointer to Line Numbers: Number of Relocations: Number of Line Numbers: Characteristics: | .rdata 000000d3 00005000 00000200 00003c00 00000000 00000000 0000 |
|---|---|---|
| 20 | Section name: Virtual Size: Virtual Address: Size of raw data: | .data 00010648 00006000 00004400 |
| 25 | Pointer to Raw Data: Pointer to Relocations: Pointer to Line Numbers: Number of Relocations: Number of Line Numbers: Characteristics: | 00003e00 00000000 00000000 0000 0000 Section contains initialized data |
| 30 | Characteristics: | Section is readable Section is writeable |
| 35 | Section name: Virtual Size: Virtual Address: Size of raw data: Pointer to Raw Data: | .idata 00000420 00017000 00000600 00008200 |
| 40 | Pointer to Relocations: Pointer to Line Numbers: Number of Relocations: Number of Line Numbers: Characteristics: | 00000000 0000000 0000 0000 Section contains initialized data |
| 45 | | Section is readable Section is writeable |

Section name: .reloc 00000ed6 Virtual Size: 00018000 Virtual Address: 5 00001000 Size of raw data: 00008800 Pointer to Raw Data: 0000000 Pointer to Relocations: Pointer to Line Numbers: 00000000 0000 Number of Relocations: 10 0000 Number of Line Numbers: Section contains initialized data Characteristics:

5a4d

Section can be discarded Section is readable

15

Header Information

Signature: Last Page Size: 0090 20 Total Pages in File: 0003 Relocation Items: 0000 0004 Paragraphs in Header: Minimum Extra Paragraphs: 0000 Maximum Extra Paragraphs: ffff 25 0000 Initial Stack Segment: 00b8 Initial Stack Pointer: Complemented Checksum: 0000 Initial Instruction Pointer: 0000 0000 30 Initial Code Segment: 0040 Relocation Table Offset: 0000 Overlay Number: 0000 0000 0000 0000 Reserved: 0000 0000 0000 0000 0000 0000 0000 0000 35 0000 0000 0000 0000 00000080 Offset to New Header: Memory Needed: 2K

40

File: Line21.exp

L__mTM9R___.edatasdØ

@@.drectve <

mTM9F___(4@Q^h_Line21.dllLine21DecodeShiftLeftShiftRight___\$_(_4_,_8_0_<

 $/OUT: Line 21. dll. edata \underline{\quad} \& \underline{\quad} E_7 \underline{\quad} \dot{U} Line 21 Decode Shift Right Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift Left \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Line 21 Decode @ 12 \underline{\quad} Shift \underline{\quad} Line 21 Decode @ 12 Decod$ hiftRight@8_ShiftLeft@8_imp_Line21Decode@12_imp_ShiftLeft@8_imp_ShiftRight@8_IMPORT_DESCRIPTOR_Line21_NULL_IMPORT_DESCRIPTOR_Line21_NU

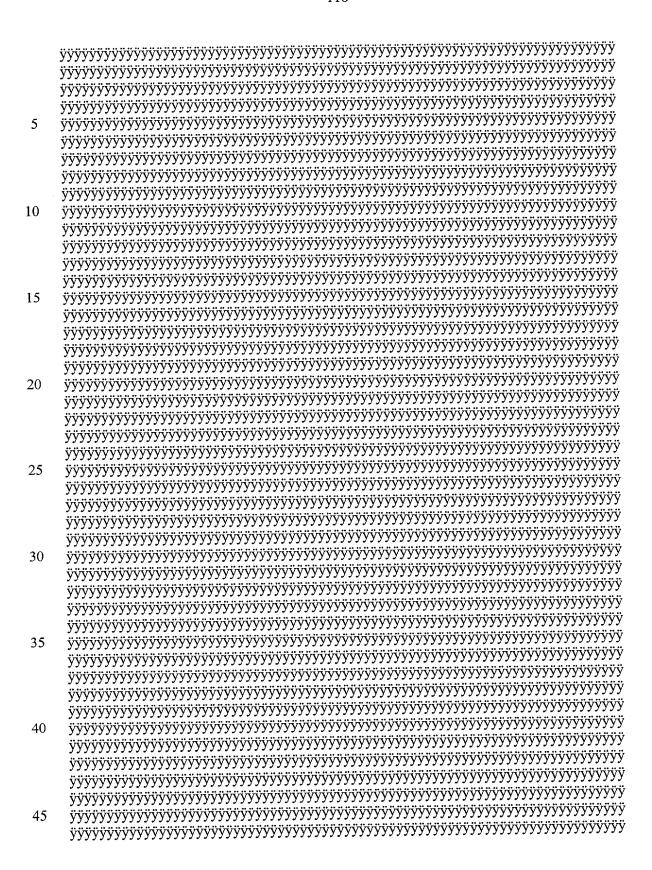
10 LL THUNK DATA

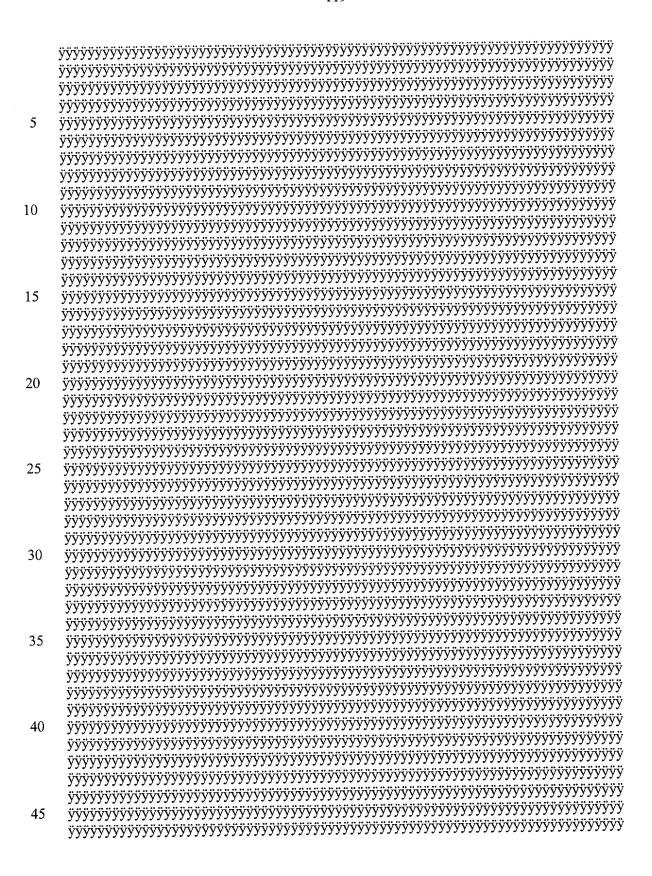
40

File: Line21.lib !<arch> 0 222 966356238 5 _p_^ _R Þ p ULL_IMPORT_DESCRIPTOR_imp_Line21Decode@12_imp_ShiftLeft@8_imp_Sh 0 244 iftRight@8 Line21 NULL THUNK DATA/ 966356238 10 RÞšp. Line21Decode@12 ShiftLeft@8 ShiftRight@8_IMPORT_DESCRIPT OR Line21 NULL IMPORT_DESCRIPTOR_imp_Line21Decode@12_imp_ShiftLef t@8_imp_ShiftRight@8 Line21_NULL_THUNK_DATALine21.dll/ 966356238 15 592 .idata\$2 D_X_@ A.idata\$6v X @ L m^{TM9} , à Line21.dll___.idata\$2@A_h.idata\$6__.idata\$4@Ah.idata\$5@Ah__8_P__IMPOR T_DESCRIPTOR_Line21_NULL_IMPORT_DESCRIPTOR_Line21_NULL_THUNK_D 966356238 0 127 ATALine21.dll/ 20 NULL IMPORT_DESCRIPTOR L $m^{TM9}P_{\perp}$.idata\$3_<@ À 0 154 966356238 Line21.dll/ Line21 NULL THUNK DATALine21. $L_m^{TM}91_.idata$5_d@0A.idata$4_h@0A____$ dll/ 966356238 492 0 L___mTM9ð__.text_'°__ `.idata\$5_ÄÈ_@_0À.idata\$4_ÒÖ_@_0À.idata\$6_à@_ 25 $A\ddot{\ddot{v}}$ Line21Decode.text $\Box \hat{A}$ __idata\$5__ \(\tilde{\text{G}} \) \(\tilde{\text{A}} \) _idata\$4____ \(\tilde{\text{C}} \) \(\tilde{\text{A}} \) \(\tilde{\text{A}} \) \(\tilde{\text{G}} \) \(\tilde{\text{Imp}} \) Line21Decode @12_IMPORT_DESCRIPTOR_Line21Line21.dll/ 966356238 484 30 _.idata\$5______\^Â__.idata\$4_______\^A.idata\$6_____\^A_2_imp__ShiftLeft@8__I MPORT DESCRIPTOR Line21Line21.dll/ 966356238 487 35 □`Â___.idata\$4_____□`Â.idata\$6_____□`Â__3_imp__ShiftRight@8 .idata\$5 __IMPORT_DESCRIPTOR_Line21

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File: Line21.pch VCPCH0...z&□Xü j:\vb60\line21\vc40.pdb †_Q Sep 27 199513:24:33š d 0 I INTEGRAL MAX BITS=64 WIN32 MT WIN32 NDEBUG M IX86=400 MSC VER=1000_ WINDOWS_J:\VB60\Line21_C:\MSDEV\INCLUDE_C:\MSDEV\MFC\include_K:\ MSDEV\INCLUDE K:\MSDEV\MFC\include_D:\MSDEV\INCLUDE_D:\MSDEV\MF C\include 10 _j:\vb60\line21\vc40.pdb__p™€œ™€È™€Är€Ä_€Äb€_€€€ – ÿÿÿÿ $\pounds \in \emptyset \notin \widehat{\mathsf{C}} \in \overline{\mathsf{A}} \underbrace{\mathsf{2}} \in D \in DB \in \emptyset A \in \widehat{\mathsf{E}} A \in \widehat{\mathsf{B}} \in B \in \widehat{\mathsf{A}} B \in \widehat{\mathsf{A}} A \in \emptyset A \in \widehat{\mathsf{B}} \in B \in \widehat{\mathsf{A}} B \in \widehat{\mathsf{B}} \in A \in \widehat{\mathsf{B}} \in A \in \widehat{\mathsf{A}} B = \widehat{\mathsf{A}} B \in \widehat{\mathsf{A}} B \in \widehat{\mathsf{A}} B \in \widehat{\mathsf{A}} B = \widehat{\mathsf{A}} B \in \widehat{\mathsf{A}} B = \widehat{\mathsf{A}} B \in \widehat{\mathsf{A}} B \in \widehat{\mathsf{A}} B = \widehat{\mathsf{A}} B \in \widehat{\mathsf{A}} B = \widehat{\mathsf{A}} B =$ $z \in _{\{ \in \ddot{\mathsf{U}} z \in , \{ \in @\{ \in \mathsf{T} \{ \in \mathsf{h} \{ \in | \{ \in \mathsf{u} \} \in \mathsf{u} \} \in \mathsf{u} \} \in \mathsf{u} \} \in \mathsf{u} \}} \in \mathsf{u} = \mathsf{$ $\vec{\varepsilon},\vec{\varepsilon} \approx \vec{c} = \vec{$ 15 $\overline{\epsilon}\ddot{\mathbf{A}} \ \overline{\epsilon}\ddot{\mathbf{a}} \ \overline{\epsilon} \ \overline{\epsilon}\mathbf{S} \ \overline{\epsilon}\mathbf{D} \ \underline{\epsilon}\mathbf{d} \ \overline{\epsilon}, \underline{\widetilde{\epsilon}}\mathbf{D} \ \overline{\epsilon}\ddot{\mathbf{a}} \ \overline{\epsilon} \ \overline{\epsilon}\mathbf{S} \ \overline{\epsilon}\mathbf{D} \ \overline{\epsilon}\mathbf{d} \ \overline{\epsilon}, \underline{\widetilde{\epsilon}}\mathbf{D} \ \overline{\epsilon}\ddot{\mathbf{A}} \ \overline{\epsilon}\ddot{\mathbf{a}} \ \overline{\epsilon} \ \overline{\epsilon}\mathbf{S} \ \overline{\epsilon}\mathbf{D} \ \overline{\epsilon}\mathbf{d} \ \overline{\epsilon}, \underline{\widetilde{\epsilon}}\mathbf{D} \ \overline{\epsilon}\ddot{\mathbf{A}} \ \overline{\epsilon}\ddot{\mathbf{a}} \ \overline{\epsilon}\mathbf{D} \ \overline{\epsilon}\ddot{\mathbf{A}} \ \overline{\epsilon$ €D ۀ ۊ € €¤ €.. €\$ €D 20 €d €,, €¤ ۀ ۊ 25 €\$ €D €d €,, 30 €¤ ۀ ۊ $\boldsymbol{\varepsilon} \underline{\quad} \boldsymbol{\varepsilon} \boldsymbol{\Sigma} \underline{\quad} \boldsymbol{\varepsilon} \underline{\quad$ $\overbrace{\varepsilon} \$ \underbrace{\varepsilon} D \underbrace{\varepsilon} d \underbrace{\varepsilon}, \underbrace{\varepsilon} \cong \underbrace{\varepsilon} \widecheck{\varepsilon} \underbrace{\varepsilon} \underbrace{\varepsilon} \underbrace{\varepsilon} \underbrace{\varepsilon} D \underbrace{\varepsilon} d \underbrace{\varepsilon}, \underbrace{\varepsilon} \cong \underbrace{\varepsilon} \widecheck{U} B \varepsilon \ddot{A} R \varepsilon \varepsilon \varepsilon \underline{\hspace{0.5cm}} e \varnothing \underbrace{\hspace{0.5cm}} e \varnothing \underbrace{\hspace{0.5cm}} E \breve{g} \underbrace{\hspace{0.5cm}} F \ddot{g} \underbrace{\hspace{0.5cm}} F \ddot{g$ 35 è ¼ Release/Parity.obj_ 40



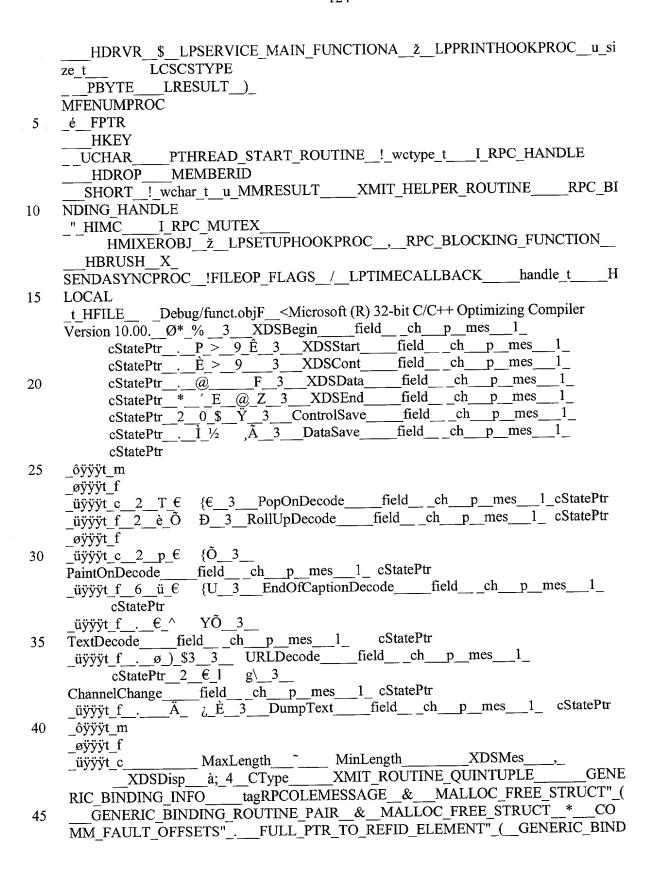


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| 20 | _pñ"_€MIDL_STUB_MESSAGEñ |
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| | f pfnTranslateToXmitn pfnTranslateFromXmitóòn pfnFreeXmit |
| | pfnFreeInst&XMIT_ROUTINE_QUINTUPLE |
| 25 | |
| | |
| | F pObjóòñ u Sizeóòñ pfnBind |
| 30 | pfnUnbindòñ&GENERIC_BINDING_INFOñ |
| | ñŽ |
| | reserved1òñ "dataRepresentationñBufferñ "_cbBufferóòñ_"_iMe thod reserved2òñ_"_(_rpcFlagsóòñ",_tagRPCOLEMESSAGEóòñu |
| | |
| 35 | !_ |
| | #_&"pfnAllocate\$pfnFree"%MALLOC_FREE_STRUCT& |
| | pfnBind |
| 40 | pfnUnbindòñ. 'GENERIC_BINDING_ROUTINE_PAIRòñ* CommOffsetñ FaultOffset")l0_†k TM 9 |
| 40 | Debug/XDSROM.objF < Microsoft (R) 32-bit C/C++ Optimizing Compiler |
| | Version 10.00 MaxLength MinLength XDSMes , |
| | XDSDisp:_ mpaaRatings8:_ |
| 45 | tvpgRatings X:flagmask`:typesà;_ |

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XMIT_ROUTINE_QUINTUPLE_____GENERIC_BINDING_INFO
    tagRPCOLEMESSAGE_&__MALLOC_FREE_STRUCT"_(__GENERIC_BINDING
   ROUTINE_PAIR_ & __MALLOC_FREE_STRUCT__*__COMM_FAULT_OFFSETS"_
    FULL_PTR_TO_REFID_ELEMENT"_(__GENERIC_BINDING_ROUTINE_PAIR_
     XMIT ROUTINE QUINTUPLE"_,_PFULL_PTR_TO_REFID_ELEMENT
5
   1 GUID 3 LPCLSID 6 tagENHMETARECORD
    1_GUID_L_MIDL_STUB_DESC_S__FULL_PTR_XLAT_TABLES_
                                                          PROP
   SHEETPAGEA_f PROPSHEETPAGEW
   _1__CLSID___,__IRpcChannelBufferVtbl__,,__DLGTEMPLATE__‡__RPC_SYNTAX_ID
   ENTIFIER Œ EXCEPTION_RECORD_Ž OVERLAPPED_' FLOATING_SA
   VE AREA
    _1_ID__,_DLGTEMPLATE____PROPS_(,ŏŽ$_öŽ_,öŽ__HEETPAGEA__',__LPDL
   GTEMPLATEA f PROPSHEETPAGEW_"_tagPOINT_—
     _CONTEXT__TM__RPC_VERSION
   ____POINT___CONTEXT
15
   _3_LPIID____PEXCEPTION_RECORD__>_val_context
      HDWP
              __RPC_SS_THREAD_HANDLE__X__CALINFO_ENUMPROCW____R
    u PUINT
   PC AUTH IDENTITY HANDLE 6
   ENHMETARECORD&
20
    SECURITY CONTEXT TRACKING MODE_X_DATEFMT_ENUMPROCW_t
   PSID NAME USE _MIDICALLBACK@20"_!_SECURITY_DESCRIPTOR_CONTROL
        EXPR EVAL ž LPFRHOOKPROC X CALINFO_ENUMPROCA__i__PFNC
   ALLBACK X DATEFMT_ENUMPROCA ¤ ICMENUMPROCW ©
    POUERYHANDLER
    _@_FLOAT__"__LPDWORD_____RPC_AUTHZ_HANDLE__uMMVERSION
      HRSRC RPC FORWARD FUNCTION@20" ® PTOP_LEVEL_EXCEPTION_F
    ILTER
30
    HCONV
    _BYTE___LONGLONG__a_LPPROPSHEETPAGEW__±_ICMENUMPROCA_! LP
    WSTR "ACCESS_MASK_" COLORREF_Z_LPPROPSHEETPAGEA_ '__PIMAG
                   HWAVEOUT__$_PRPC_RUNDOWN___
                                                  HENHMETAFILE
    E TLS CALLBACK
    t_PBOOL__;__RPC_SYNTAX_IDENTIFIER__X_DESKTOPENUMPROCW__"_u_lo
35
    t_SPTR_!_LPOLESTR___NDR_CCONTEXT
    u_UINT_X_WNDENUMPROC_X_DESKTOPENUMPROCA_____WNDPROC___"_
                  DWORDLONG
    HREFTYPE #
    _p_LPSTR t
40
    TOKEN TYPE
    ! BSTR
    RPC NS HANDLE
       HDESK__"__PDWORD__°__EXCEPTION_POINTERS__!
    CLIPFORMAT ! LPWORD t TYPEKIND X CODEPAGE ENUMPROCW
45
```

```
p_HPSTR_d_LPFNPSPCALLBACKW_!_OLECHAR_X_ENUMRESLANGPROC
    t VARKIND X CODEPAGE ENUMPROCA ] LPFNPSPCALLBACKA
   RPC_BUFPTR_X_WINSTAENUMPROCW_½_RPC_AUTH_KEY_RETRIEVAL_FN
   !_ LPCOLESTR
                     SC HANDLE
      HTASK À REGISTERWORDENUMPROCW_X_TIMEFMT_ENUMPROCW__
5
   X WINSTAENUMPROCA
   !_ATOM__!__LPCWSTR__X__DLGPROC__Ã__REGISTERWORDENUMPROCA____
   HOLEMENU
   _t_BOOL___RPC_OBJECT_INQ_FN@12
   " ULONG X TIMEFMT_ENUMPROCA_ «__PEXCEPTION_POINTERS_Æ__tag
   HELPINFO_t_CALLCONV___LPMENUTEMPLATEA___HGLOBAL___LPVOI
   RPC IF HANDLE X HOOKPROC
   p PSTR ž LPCFHOOKPROC_!_USHORT__7_
   LPHMIDIOUT HRESULT
    PUCHAR DISPID È PFULL PTR_XLAT_TABLES ž_LPCCHOOKPROC_
    LPBYTE
   X PROC
   A DATE Đ
   ENHMFENUMPROC
20
    PSID
   t_ LPINT
   Ñ SNB
   _p_CHAR__p_LPCSTR__Ó_SERVER_ROUTINE
   __SCODE&_Ø_LPOVERLAPPED_COMPLETION_ROUTINE_Û
        YIELDPROC ! VARTYPE HWAVEIN ß IRpcChannelBuffer ß IRpc
   ChannelBuffer ž LPPAGEPAINTHOOK t
        OLERENDER u LPUINT_X_GOBJENUMPROC____
   HMETAFILEPICT Ñ LPBSTR
30
   _byte__@__PFLOAT__"__PSECURITY_INFORMATION__$__NDR_RUNDOWN
   LPCVOID_"_SERVICE_STATUS_HANDLE__ž_LPPAGESETUPHOOK
    u u int !_wint_t__â_
   LPMMIOPROC
   STUB THUNK
35
    ! WCHAR ___HGDIOBJ_X_ENUMRESNAMEPROC___HCONVLIST
      HSZ
           HDDEDATA å tagHANDLETABLE_X_FARPROC_X_
    PROPENUMPROCW " MCIERROR t LPBOOL
      PLONG u WPARAM
40
       HMMIO ž
    LPOFNHOOKPROC_c_HPROPSHEETPAGE_QUERYHANDLER_X_
    PROPENUMPROCA
       HKL HACCEL "
    45
        onexit t X
```

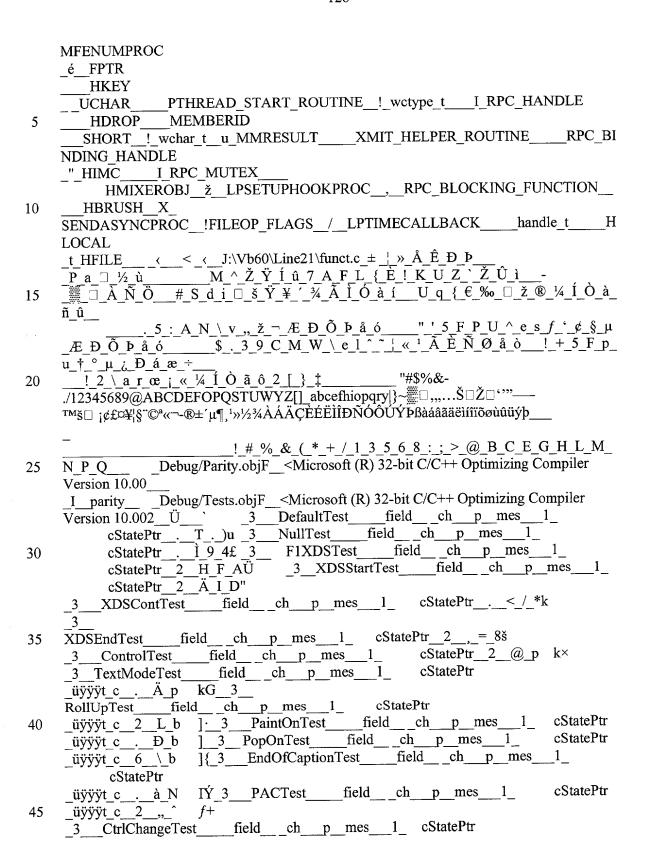
```
FONTENUMPROCW__"_LCTYPE__î_RPC_DISPATCH_FUNCTION
    " CALID
   RPC STATUS
                HMIDIIN
      HDC 6 MSGBOXCALLBACK X
   FONTENUMPROCA GENERIC UNBIND ROUTINE HBITMAP LPARA
   MENUTEMPLATEW_7_LPHMIDISTRM_t_TOKEN_INFORMATION_CLASS__D
   RVCALLBACK@20_÷_RPC_MESSAGE__
   MENUTEMPLATEA
      HMIDI__û_PFNPROPSHEETCALLBACK____PSECURITY_DESCRIPTOR
10
      HMENU HWINSTA
                   RPC CLIENT_FREE@4 _ý_ PMIDL_STUB_DESC
   LCSGAMUTMATCH
     LONG NDR SCONTEXT
   ARRAY_INFO__p_va_list__7__LPHMIXER__X_
                                        TIMERPROC X
                     HINSTANCE " FOURCC
   DRAWSTATEPROC
     MIDL_STUB_MESSAGE__"_SECURITY_INFORMATION__X_ENUMRESTYPEP
   ROC å HANDLETABLE 7 LPHWAVEIN
     PFORMAT_STRING__"_CALTYPE__7_LPHANDLE____RPC_MGMT_AUTHORI
   ZATION_FN_!_LANGID"_t_SECURITY_IMPERSONATION_LEVEL__u_SOCKET__
    BOOLEAN_7_RPC_EP_INQ_HANDLE
20
      HWND__MMIOPROC@16___LPHANDLER_FUNCTION_t_EXCEPTION_DIS
    POSITION tXLAT SIDE
      HHOOK LPTHREAD START ROUTINE 7
   LPHWAVEOUT HPALETTE X PROPENUMPROCEXW
                                                 HMODULE W
   AVECALLBACK@20 RPC_CLIENT_ALLOC@4 HANDLE_
                                                   HMIXER
    ! PWORD_X_PROPENUMPROCEXA___HCOLORSPACE_X_EDITWORDBR
                GENERIC_BINDING_ROUTINE_!_u_short__7_
    EAKPROCA
    LPHMIDIIN X LOCALE ENUMPROCW
    " DWORD_X_GRAYSTRINGPROC_t_DESCKIND
    7 PHKEY" ® LPTOP_LEVEL_EXCEPTION_FILTER
30
    "_LCID___LPFNADDPROPSHEETPAGE__u_char__X_LOCALE_ENUMPROCA
    HRGN_t_ACL_INFORMATION_CLASS_t_SYSKIND__TIMECALLBACK@20_
    PACCESS_TOKEN___SC_LOCK_X_LINEDDAPROC___PHANDLER_ROUTIN
    E"_!_PSECURITY_DESCRIPTOR_CONTROL_ t_FUNCKIND
35
    FXPT2DOT30 LPLONG
              HMIDIOUT t
       HGLRC
    INVOKEKIND HMIDISTRM
       HFONT
       HPEN
40
       HICON
       PVOID
                               OLEUPDATE u MCIDEVICEID_
    tagMETARECORD " REGSAM _t
    LPSERVICE_MAIN FUNCTIONW
                 HMETAFILE X ABORTPROC
45
    ! WORD ___
```



| | The second secon |
|-----|--|
| | ING_ROUTINE_PAIRXMIT_ROUTINE_QUINTUPLE"_,PFULL_PTR_TO_REFI |
| | D ELEMENT |
| | GUID_3_LPCLSID_6_tagENHMETARECORD |
| | 1 GUID L MIDL STUB DESC S FULL PTR XLAT TABLES PROP |
| 5 | SHEETPAGEA f PROPSHEETPAGEW |
| 5 | 1 CLCID 7 VDCCtoto IDncChannelRufferVthl DLCTEMPLATE I KP |
| | C_SYNTAX_IDENTIFIER_ Œ _ EXCEPTION_RECORD_ Ž _ OVERLAPPED_ ' |
| | C SINIAN_IDENTIFIER_ CEXCENTION_RECORD_2 OF THE PROPERTY O |
| | FLOATING_SAVE_AREA _1IID,DLGTEMPLATEPROPSHEETPAGEA'LPDLGTEMPLATEAf |
| | |
| 10 | PROPSHEETPAGEW |
| | 9_sval_"_tagPOINT_—_CONTEXT_TM_RPC_VERSION |
| | "_POINT_—_CONTEXT |
| | _3_LPIID%PEXCEPTION_RECORD |
| | 9_SVAL_>_val_context |
| 15 | HDWP H cState |
| | u PUINTRPC_SS_THREAD_HANDLE_X_CALINFO_ENUMPROCWR |
| | PC AUTH IDENTITY_HANDLE_6_ |
| | ENHMETARECORD& |
| | SECURITY CONTEXT TRACKING MODE X DATEFMT ENUMPROCW_t_ |
| 20 | PSID_NAME_USEMIDICALLBACK@20"_!_SECURITY_DESCRIPTOR_CONTROL |
| | <u> </u> |
| | EXPR_EVALž_LPFRHOOKPROCXCALINFO_ENUMPROCA;PFNC |
| | ALLBACK_X_DATEFMT_ENUMPROCA_ \(\tilde{L} \) ICMENUMPROCW_\(\tilde{L} \) |
| | PQUERYHANDLER |
| 25 | @ FLOAT_"_LPDWORDRPC_AUTHZ_HANDLE_uMMVERSION |
| 25 | HRSRCRPC_FORWARD_FUNCTION@20"_®_PTOP_LEVEL_EXCEPTION_F |
| | |
| | ILTER |
| | HCONV |
| | TOUGHOUSE A DEPONDENCE TO A CENT A COMENHANDE OCA 1 I D |
| 30 | BYTE LONGLONG a LPPROPSHEETPAGEW ± ICMENUMPROCA ! LP |
| | WSTR " ACCESS MASK " COLORREF Z LPPROPSHEETPAGEA PIMAG |
| | E_TLS_CALLBACKHWAVEOUT\$_PRPC_RUNDOWNHENHMETAFILE |
| | t_PBOOL_ |
| | ng |
| 35 | t SPTR ! LPOLESTR NDR CCONTEXT |
| | u_UINT_X_WNDENUMPROC_X_DESKTOPENUMPROCAWNDPROC |
| | HREFTYPE_# DWORDLONG |
| | p_LPSTR_t |
| | TOKEN TYPE |
| 40 | ! BSTR |
| 40 | RPC NS HANDLE |
| | HDESK "_PDWORD°EXCEPTION_POINTERS! |
| | CLIPFORMAT ! LPWORD t TYPEKIND X CODEPAGE ENUMPROCW |
| | p_HPSTR_d_LPFNPSPCALLBACKW_!_OLECHAR_X_ENUMRESLANGPROC |
| 4.5 | p_HPSTR_d_LPFNPSPCALLBACKW_:_OLECHAR_X_EIGHNESSMINGTROE t_VARKIND_X_CODEPAGE_ENUMPROCA |
| 45 | T VARKINID X CUDERACTE ENUNCIACION 1 DITILIDI CADDOCIAL |

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RPC_BUFPTR__X__WINSTAENUMPROCW__½ RPC_AUTH_KEY_RETRIEVAL_FN
   ! LPCOLESTR
                      SC HANDLE
      HTASK À REGISTERWORDENUMPROCW X_TIMEFMT_ENUMPROCW
   X WINSTAENUMPROCA
   _!_ATOM__!__LPCWSTR__X__DLGPROC__Ã__REGISTERWORDENUMPROCA___
   HOLEMENU
   _t_BOOL___RPC_OBJECT_INQ_FN@12
    " ULONG X TIMEFMT ENUMPROCA « PEXCEPTION POINTERS A tag
   HELPINFO_t_CALLCONV___LPMENUTEMPLATEA___HGLOBAL___LPVOI
10
   RPC IF HANDLE X HOOKPROC
    p PSTR ž LPCFHOOKPROC! USHORT 7
   LPHMIDIOUT__ HRESULT
     PUCHAR DISPID È PFULL PTR XLAT TABLES _ ž_LPCCHOOKPROC_
     LPBYTE
15
   X PROC
    A DATE Đ
   ENHMFENUMPROC
      PSID
   t LPINT
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m N} SNB
   _p_CHAR__p_LPCSTR__Ó_SERVER_ROUTINE
    SCODE& Ø LPOVERLAPPED COMPLETION ROUTINE Û
        YIELDPROC ! VARTYPE HWAVEIN B IRpcChannelBuffer B IRpc
   ChannelBuffer__ž LPPAGEPAINTHOOK__t
25
        OLERENDER u LPUINT X_GOBJENUMPROC
   HMETAFILEPICT Ñ LPBSTR
    byte @ PFLOAT " PSECURITY INFORMATION_ $ NDR_RUNDOWN_
   LPCVOID___"_SERVICE_STATUS_HANDLE__ž__LPPAGESETUPHOOK
30
    u u int ! wint t â
    LPMMIOPROC
    STUB THUNK
    _!_WCHAR____HGDIOBJ__X_ENUMRESNAMEPROC___HCONVLIST
    ___ HSZ
35
           HDDEDATA å tagHANDLETABLE_X_FARPROC_X_
    PROPENUMPROCW " MCIERROR t LPBOOL
       PLONG u WPARAM
       HMMIO ž
    LPOFNHOOKPROC_c_HPROPSHEETPAGE_QUERYHANDLER_X
40
    PROPENUMPROCA
       HKL___HACCEL "
    RPCOLEDATAREP VARIANT BOOL HCURSOR_7 PHANDLE_é_
    FONTENUMPROCW "LCTYPE î RPC_DISPATCH_FUNCTION
45
    _"_CALID___
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| | RPC STATUSHMIDIIN |
|----|--|
| | HDC 6 MSGBOXCALLBACK X |
| | FONTENUMPROCA GENERIC UNBIND ROUTINE HBITMAP LPARA |
| | M |
| 5 | MENUTEMPLATEW 7_LPHMIDISTRM_t_TOKEN_INFORMATION_CLASSD |
| | RVCALLBACK@20_÷_RPC_MESSAGE |
| | MENUTEMPLATEA |
| | HMIDI ú PFNPROPSHEETCALLBACKPSECURITY_DESCRIPTOR |
| | HMENU HWINSTA |
| 10 | LCSGAMUTMATCHRPC_CLIENT_FREE@4ý_PMIDL_STUB_DESC |
| | LONG NDR_SCONTEXT |
| | ARRAY_INFOp_va_list7LPHMIXERX TIMERPROCX_ |
| | DRAWSTATEPROC HINSTANCE "_FOURCC |
| | MIDL STUB MESSAGE " SECURITY INFORMATION X ENUMRESTYPEP |
| 15 | ROC & HANDI FTARLE 7 LPHWAVEIN |
| | PFORMAT_STRING_"_CALTYPE7_LPHANDLERPC_MGMT_AUTHORI |
| | ZATION_FN_!_LANGID"_t_SECURITY_IMPERSONATION_LEVELfpos_t_u_S |
| | OCKET BOOLEAN 7 RPC EP INQ HANDLE |
| | HWND MMIOPROC@16 LPHANDLER_FUNCTION t EXCEPTION_DIS |
| 20 | POSITION TXLAT SIDE |
| | HHOOK LPTHREAD START ROUTINE 7 |
| | LPHWAVEOUT HPALETTE X PROPENUMPROCEXW HMODULE W |
| | AVECALLBACK@20RPC_CLIENT_ALLOC@4HANDLEHMIXER |
| | ! PWORD X PROPENUMPROCEXA HCOLORSPACE_X_EDITWORDBR |
| 25 | EAKPROCA GENERIC BINDING ROUTINE ! u_short7_ |
| | LPHMIDIIN X_LOCALE_ENUMPROCW |
| | " DWORD_X_GRAYSTRINGPROC_t_DESCKIND |
| | 7_PHKEY"_®_LPTOP_LEVEL_EXCEPTION_FILTER |
| | " LCID LPFNADDPROPSHEETPAGE u char X LOCALE ENUMPROCA |
| 30 | HRGN_t_ACL_INFORMATION_CLASS_t_SYSKINDTIMECALLBACK@20_ |
| | |
| | PACCESS_TOKENSC_LOCKX_LINEDDAPROCPHANDLER_ROUTIN |
| | E"_!_PSECURITY_DESCRIPTOR_CONTROL_t_FUNCKIND |
| | FXPT2DOT30LPLONG |
| 35 | HGLRCHMIDIOUTt |
| | INVOKEKIND HMIDISTRM |
| | HFONT |
| | HPEN |
| | HICON |
| 40 | PVOID |
| | tagMETARECORD"_REGSAMt OLEUPDATEu_MCIDEVICEID |
| | LPSERVICE_MAIN_FUNCTIONW |
| | ! WORD HMETAFILE X ABORTPROC |
| | HDRVR_\$_LPSERVICE_MAIN_FUNCTIONAž_LPPRINTHOOKPROCu_si |
| 45 | ze_t LCSCSTYPE |
| | PBYTE LRESULT)_ |



| | ôÿÿÿt_føÿÿÿt_ctrl |
|------------|---|
| | |
| | 2 CPTest field ch n mes 1 cStatePtr |
| | 3 CRTest field ch p mes 1 cStatePtr üÿÿÿt c ^ W 3 URLTest field ch p mes 1 cStatePtr üÿÿyt c . \$ V Q q 3 . |
| _ | name o C V O a 3 |
| 3 | |
| | URLEndTest field ch p mes 1 cStatePtr |
| | _ôÿÿÿt_l |
| | _øÿÿÿt_f |
| | |
| 10 | tagRPCOLEMESSAGE & MALLOC_FREE_STRUCT" (GENERIC_BINDI |
| | NG_ROUTINE_PAIR_ &MALLOC_FREE_STRUCT_ *COMM_FAULT_OFFSET |
| | S" . FULL PTR TO REFID ELEMENT" (GENERIC BINDING ROUTINE PAIR |
| | XMIT_ROUTINE_QUINTUPLE"_,PFULL_PTR_TO_REFID_ELEMENT |
| | 1GUID_3_LPCLSID_6_tagENHMETARECORD |
| 15 | 1_GUID_L_MIDL_STUB_DESC_S_FULL_PTR_XLAT_TABLESPROP |
| 13 | SHEETPAGEA 6 PROPSHEETPAGEW |
| | 1 CLSID 7 XDSState _, IRpcChannelBufferVtbl _, DLGTEMPLATE _‡ _ RP C SYNTAX IDENTIFIER _C _ EXCEPTION_RECORD _Z _OVERLAPPED _ ' _ |
| | C SYNTAX IDENTIFIER & FXCEPTION RECORD Ž OVERLAPPED ' |
| | FLOATING SAVE AREA |
| 30 | 1 IID " DLGTEMPLATE PROPSHEETPAGEA '_LPDLGTEMPLATEA_f |
| 20 | |
| | O cred " tochOINT CONTEXT IM RPC VERSION |
| | 9_sval_"_tagPOINT_—_CONTEXT_TM_RPC_VERSION |
| | "_POINTCONTEXT |
| | _3_LPIIDPEXCEPTION_RECORD |
| 25 | 9_SVAL val_context |
| | HDWP H cState |
| | u_PUINTRPC_SS_THREAD_HANDLE_X_CALINFO_ENUMPROCWR |
| | PC_AUTH_IDENTITY_HANDLE6_ |
| | ENHMETARECORD&_ |
| 30 | SECURITY_CONTEXT_TRACKING_MODEXDATEFMT_ENUMPROCWt_ |
| | PSID_NAME_USEMIDICALLBACK@20"_!_SECURITY_DESCRIPTOR_CONTROL |
| | |
| | EXPR_EVALž_LPFRHOOKPROCXCALINFO_ENUMPROCA;PFNC |
| | ALLBACK_X_DATEFMT_ENUMPROCA_ |
| 35 | PQUERYHANDLER |
| | @_FLOAT"_LPDWORDRPC_AUTHZ_HANDLEuMMVERSION |
| | HRSRCRPC_FORWARD_FUNCTION@20"_®PTOP_LEVEL_EXCEPTION_F |
| | ILTER |
| | HCONV |
| 40 | |
| | BYTE LONGLONG a LPPROPSHEETPAGEW ± ICMENUMPROCA ! LP |
| | WSTR " ACCESS MASK " COLORREF Z LPPROPSHEETPAGEA ' PIMAG |
| | E_TLS_CALLBACKHWAVEOUT\$_PRPC_RUNDOWNHENHMETAFILE |
| | t PBOOL |
| 45 | ng |
| T J | t SPTR ! LPOLESTR NDR_CCONTEXT |
| | t Dille . Di Calabite l'art Cocitation |

```
u UINT X WNDENUMPROC X DESKTOPENUMPROCA ¶ WNDPROC "
                 DWORDLONG
   HREFTYPE #
   p LPSTR t
   TOKEN TYPE
   ! BSTR
5
   RPC NS HANDLE
      HDESK__"_PDWORD__°__EXCEPTION_POINTERS__!
   CLIPFORMAT ! LPWORD t TYPEKIND X CODEPAGE ENUMPROCW
   p_HPSTR_d_LPFNPSPCALLBACKW_!_OLECHAR_X_ENUMRESLANGPROC
    t_VARKIND__X_CODEPAGE_ENUMPROCA__] LPFNPSPCALLBACKA
10
   RPC_BUFPTR_X_WINSTAENUMPROCW_½_RPC_AUTH_KEY_RETRIEVAL_FN
   _!_ LPCOLESTR
                      SC HANDLE
      HTASK À REGISTERWORDENUMPROCW_X_TIMEFMT_ENUMPROCW_
   X WINSTAENUMPROCA
   !_ATOM__!__LPCWSTR__X__DLGPROC__Ã__REGISTERWORDENUMPROCA____
15
   HOLEMENU
    t BOOL RPC OBJECT_INQ_FN@12
   "_ULONG_X_TIMEFMT_ENUMPROCA__«_PEXCEPTION_POINTERS__Æ__tag
   HELPINFO_t_CALLCONV___LPMENUTEMPLATEA___HGLOBAL___LPVOI
20
   D
   RPC IF HANDLE X HOOKPROC
    p PSTR ž LPCFHOOKPROC! USHORT 7_
                HRESULT
   LPHMIDIOUT
              DISPID È PFULL PTR_XLAT_TABLES__ž_LPCCHOOKPROC__
    __PUCHAR
    LPBYTE
25
    X PROC
    A DATE Đ
   ENHMFENUMPROC
      PSID
    t LPINT
30
    Ñ SNB
   _p_CHAR__p_LPCSTR__Ó__SERVER_ROUTINE
    ___SCODE&_Ø__LPOVERLAPPED_COMPLETION_ROUTINE__Û_
        YIELDPROC! VARTYPE HWAVEIN B IRpcChannelBuffer_B_IRpc
    ChannelBuffer ž LPPAGEPAINTHOOK_t
35
        OLERENDER u LPUINT X GOBJENUMPROC
    HMETAFILEPICT Ñ LPBSTR
    byte @ PFLOAT " PSECURITY INFORMATION__$_NDR_RUNDOWN__
    LPCVOID_"_SERVICE_STATUS_HANDLE__ž_LPPAGESETUPHOOK
40
    u u int _!_wint_t_ â_
    LPMMIOPROC
    STUB THUNK
    _!_WCHAR____HGDIOBJ_X_ENUMRESNAMEPROC___HCONVLIST
45
       HSZ
    t INT HDDEDATA_å_tagHANDLETABLE_X_FARPROC_X_
```

```
PROPENUMPROCW " MCIERROR_t_LPBOOL
      PLONG u WPARAM
      HMMIO ž
   LPOFNHOOKPROC_c_HPROPSHEETPAGE_QUERYHANDLER_X
5
   PROPENUMPROCA
      HKL HACCEL "
   RPCOLEDATAREP___VARIANT_BOOL____HCURSOR__7__PHANDLE__é_
        onexit t X
   FONTENUMPROCW "LCTYPE î RPC DISPATCH FUNCTION
   " CALID
10
   RPC_STATUS___HMIDIIN
      HDC 6 MSGBOXCALLBACK_X
   FONTENUMPROCA___GENERIC_UNBIND_ROUTINE___HBITMAP___LPARA
   M
   MENUTEMPLATEW_7_LPHMIDISTRM_t_TOKEN_INFORMATION_CLASS__D
15
   RVCALLBACK@20_÷_RPC_MESSAGE__
   MENUTEMPLATEA
      HMIDI ú PFNPROPSHEETCALLBACK____ PSECURITY_DESCRIPTOR
      HMENU HWINSTA
   LCSGAMUTMATCH RPC_CLIENT_FREE@4 ý_PMIDL_STUB_DESC
20
            NDR SCONTEXT
   ARRAY INFO p va list 7 LPHMIXER X
                                      TIMERPROC X
   DRAWSTATEPROC HINSTANCE " FOURCC
   PFORMAT STRING " CALTYPE 7 LPHANDLE RPC MGMT AUTHORI
   ZATION_FN_!_LANGID"_t_SECURITY_IMPERSONATION_LEVEL___fpos_t_u_S
   OCKET__BOOLEAN__7_RPC_EP_INQ_HANDLE
      HWND__MMIOPROC@16___LPHANDLER_FUNCTION_t_EXCEPTION_DIS
   POSITION tXLAT SIDE
30
      HHOOK LPTHREAD START ROUTINE 7
   LPHWAVEOUT HPALETTE X PROPENUMPROCEXW HMODULE W
   AVECALLBACK@20 RPC CLIENT ALLOC@4 HANDLE HMIXER
    ! PWORD X PROPENUMPROCEXA HCOLORSPACE X EDITWORDBR
   EAKPROCA GENERIC BINDING ROUTINE! u short 7
35
   LPHMIDIIN X LOCALE_ENUMPROCW
    " DWORD X GRAYSTRINGPROC t DESCKIND
   _7_PHKEY"_®_LPTOP_LEVEL_EXCEPTION_FILTER
          LPFNADDPROPSHEETPAGE__u_char__X_LOCALE_ENUMPROCA
    HRGN t_ACL_INFORMATION_CLASS__t_SYSKIND___TIMECALLBACK@20_
40
   PACCESS_TOKEN____SC_LOCK_X_LINEDDAPROC___PHANDLER_ROUTIN
    E" ! PSECURITY DESCRIPTOR CONTROL t FUNCKIND
    FXPT2DOT30 LPLONG
      HGLRC HMIDIOUT t
45
    INVOKEKIND HMIDISTRM
```

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HFONT
      HPEN
      HICON
      PVOID
   tagMETARECORD__"_REGSAM__t OLEUPDATE__u_MCIDEVICEID_
5
    LPSERVICE MAIN FUNCTIONW
            HMETAFILE_X_ ABORTPROC
   _!_WORD
    HDRVR $ LPSERVICE_MAIN FUNCTIONA_ ž_LPPRINTHOOKPROC_u_si
            LCSCSTYPE
   ze t
            LRESULT )
10
      PBYTE
   MFENUMPROC
   é FPTR
      HKEY
   __UCHAR_
              PTHREAD_START_ROUTINE_!_wctype_t___I_RPC_HANDLE
15
      HDROP MEMBERID
     SHORT ! wchar t u MMRESULT XMIT_HELPER_ROUTINE RPC_BI
   NDING HANDLE
   _"_HIMC____I_RPC_MUTEX_
       HMIXEROBJ ž LPSETUPHOOKPROC , RPC_BLOCKING_FUNCTION_
20
     HBRUSH X
   SENDASYNCPROC !FILEOP FLAGS / LPTIMECALLBACK handle t H
   LOCAL
   f
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                \overline{./0156789}{:=}\underline{@ACDFGJMNPQSTWZ[]^{adghjkmnqtuwxz}{\sim \square,,,...\ddagger^{\check{Z}} \square^{`````}^{\bullet}}}\underline{@XCDFGJMNPQSTWZ[]^{\dot{Z}}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMNPQSTWZ[]^{\bullet}}\underline{@XCDFGJMN
25
                Optimizing Compiler Version 10.00*__¼é_äP__K__Def__p_mes__1_
                                   cStatePtr_* P_" _ 9_K _ Vcp _ p _ mes _ 1_
                                   cStatePtr__ŏÿÿp_b2__ôÿÿÿp_b1__øÿÿÿp_type__üÿÿÿp_flags__*__°_ú
                                                                                                                                  cStatePtr
30
                                    õ[ K _Typ__ p__mes__1_
                                                                        XDSMes : 4 mpaaRatings 8: 4 tvpgRatings X: L flag
                                                                                       XMIT_ROUTINE_QUINTUPLE____GENERIC_BINDING
                mask___`:_4_types___
                                              tagRPCOLEMESSAGE & MALLOC_FREE_STRUCT" ( GENERIC_
                BINDING_ROUTINE_PAIR_&_MALLOC_FREE_STRUCT_*_COMM_FAULT_O
                FFSETS"_.__FULL_PTR_TO_REFID_ELEMENT"_(__GENERIC_BINDING_ROUTINE
 35
                                                 XMIT_ROUTINE_QUINTUPLE"_,__PFULL_PTR_TO_REFID_ELEMENT
                 _1__GUID_3_LPCLSID_6_tagENHMETARECORD
                   1_GUID_L_MIDL_STUB_DESC_S__FULL_PTR_XLAT_TABLES____PROP
                 SHEETPAGEA f PROPSHEETPAGEW
                 _1__CLSID__7__XDSState___,__IRpcChannelBufferVtbl___,__DLGTEMPLATE__;
  40
                 C_SYNTAX_IDENTIFIER_ @ _ EXCEPTION_RECORD_ Ž __OVERLAPPED_ '
                 FLOATING SAVE AREA
                 1_IID__,_DLGTEMPLATE___PROPSHEETPAGEA_'_LPDLGTEMPLATEA_f
                  PROPSHEETPAGEW
                    9 sval " tagPOINT — CONTEXT ™_RPC_VERSION
  45
                  " POINT — CONTEXT
```

```
3 LPIID % PEXCEPTION_RECORD
   9_SVAL_\rightarrow_val_context
    HDWP H cState
    u PUINT RPC SS THREAD HANDLE X CALINFO ENUMPROCW R
   PC AUTH IDENTITY HANDLE_6_
   ENHMETARECORD&
    _SECURITY_CONTEXT_TRACKING_MODE__X__DATEFMT_ENUMPROCW__t_
   PSID NAME USE MIDICALLBACK@20" ! SECURITY_DESCRIPTOR_CONTROL
        EXPR EVAL <u>z_LPFRHOOKPROC_X_CALINFO_ENUMPROCA_i_PFNC</u>
10
   ALLBACK X DATEFMT ENUMPROCA DICMENUMPROCW ©
   POUERYHANDLER
   _@_FLOAT__"_LPDWORD____RPC_AUTHZ_HANDLE__uMMVERSION
      HRSRC RPC FORWARD_FUNCTION@20"_®__PTOP_LEVEL_EXCEPTION_F
15
   ILTER
    HCONV
    BYTE__LONGLONG_a_LPPROPSHEETPAGEW_±_ICMENUMPROCA_!_LP
   WSTR ____ACCESS_MASK ___COLORREF _ Z _ LPPROPSHEETPAGEA ___ PIMAG
   E_TLS_CALLBACK___HWAVEOUT__$_PRPC_RUNDOWN___HENHMETAFILE
   _t_PBOOL__;__RPC_SYNTAX_IDENTIFIER__X_DESKTOPENUMPROCW__"_u_lo
   t_SPTR_!_LPOLESTR_ NDR CCONTEXT
   u UINT X WNDENUMPROC_X DESKTOPENUMPROCA_¶_WNDPROC_"_
                 DWORDLONG
   HREFTYPE #
    p_LPSTR t
   TOKEN TYPE
    ! BSTR
   RPC NS HANDLE
      HDESK " PDWORD ° EXCEPTION POINTERS !
30
   CLIPFORMAT ! LPWORD t TYPEKIND X CODEPAGE ENUMPROCW
    p_HPSTR_d_LPFNPSPCALLBACKW_!_OLECHAR_X_ENUMRESLANGPROC
    t_VARKIND_X_CODEPAGE_ENUMPROCA__]_LPFNPSPCALLBACKA
   RPC_BUFPTR_X_WINSTAENUMPROCW_½_RPC_AUTH_KEY_RETRIEVAL_FN
    !_ LPCOLESTR
                      SC HANDLE
35
       HTASK_A_REGISTERWORDENUMPROCW_X_TIMEFMT_ENUMPROCW_
    X WINSTAENUMPROCA
    ! ATOM_!_LPCWSTR_X_DLGPROC_Ã_REGISTERWORDENUMPROCA___
    HOLEMENU
    t_BOOL___RPC_OBJECT_INQ_FN@12
40
    "_ULONG__X__TIMEFMT_ENUMPROCA__«__PEXCEPTION_POINTERS Æ__tag
    HELPINFO_t CALLCONV__LPMENUTEMPLATEA__HGLOBAL__LPVOI
    D
    RPC IF HANDLE X HOOKPROC
    p PSTR ž LPCFHOOKPROC! USHORT _7_
45
```

```
LPHMIDIOUT__ HRESULT
    PUCHAR DISPID È PFULL PTR XLAT TABLES ¿ LPCCHOOKPROC
     LPBYTE
   X PROC
    A DATE Đ
5
   ENHMFENUMPROC
      PSID
    t LPINT
    Ñ SNB
   p CHAR p LPCSTR Ó SERVER ROUTINE
10
   ___SCODE&_Ø_LPOVERLAPPED_COMPLETION_ROUTINE_Û_
        YIELDPROC! VARTYPE HWAVEIN_\( \beta \) IRpcChannelBuffer_\( \beta \) IRpc
   ChannelBuffer ž LPPAGEPAINTHOOK t
        OLERENDER_u_LPUINT_X_GOBJENUMPROC
   HMETAFILEPICT Ñ LPBSTR
15
    byte @ PFLOAT " PSECURITY INFORMATION $ NDR RUNDOWN
   LPCVOID_"_SERVICE_STATUS_HANDLE__ž_LPPAGESETUPHOOK
    u u int ! wint t _ â_
   LPMMIOPROC
    STUB THUNK
    _!_WCHAR____HGDIOBJ_X_ENUMRESNAMEPROC___HCONVLIST
      HSZ
            HDDEDATA_ å tagHANDLETABLE_X_FARPROC_X_
    t INT
25 PROPENUMPROCW " MCIERROR t LPBOOL
      PLONG u WPARAM
       HMMIO__ž_
    LPOFNHOOKPROC_c HPROPSHEETPAGE QUERYHANDLER X
    PROPENUMPROCA
              HACCEL
30
       HKL
    RPCOLEDATAREP VARIANT BOOL HCURSOR_7_PHANDLE_é_
         onexit t X
    FONTENUMPROCW __ LCTYPE _î RPC_DISPATCH FUNCTION
    " CALID
    RPC STATUS
                 HMIDIIN
35
       HDC 6 MSGBOXCALLBACK X
    FONTENUMPROCA GENERIC UNBIND ROUTINE __HBITMAP___LPARA
    MENUTEMPLATEW_7_LPHMIDISTRM_t_TOKEN_INFORMATION_CLASS__D
    RVCALLBACK@20_÷_RPC_MESSAGE__
    MENUTEMPLATEA
       HMIDI ú PFNPROPSHEETCALLBACK PSECURITY DESCRIPTOR
       HMENU HWINSTA
    LCSGAMUTMATCH RPC CLIENT FREE@4 ý PMIDL_STUB_DESC
      LONG NDR SCONTEXT
45
    ARRAY_INFO__p_va_list__7__LPHMIXER__X__ TIMERPROC__X_
```

```
DRAWSTATEPROC HINSTANCE " FOURCC
   __MIDL_STUB_MESSAGE__"_SECURITY_INFORMATION__X_ENUMRESTYPEP ROC__å_HANDLETABLE__7_ LPHWAVEIN__
    _PFORMAT_STRING__"_CALTYPE__7_LPHANDLE____RPC_MGMT_AUTHORI
   ZATION_FN_!_LANGID"_t_SECURITY_IMPERSONATION_LEVEL___fpos_t_u_S
   OCKET BOOLEAN 7 RPC EP INQ HANDLE
      HWND MMIOPROC@16 LPHANDLER FUNCTION t EXCEPTION DIS
   POSITION tXLAT SIDE
      HHOOK LPTHREAD START ROUTINE _7
   LPHWAVEOUT HPALETTE X PROPENUMPROCEXW HMODULE W
10
   AVECALLBACK@20 RPC CLIENT ALLOC@4 HANDLE
                                                    HMIXER
    ! PWORD X PROPENUMPROCEXA HCOLORSPACE X_EDITWORDBR
               GENERIC BINDING ROUTINE ! u_short 7_
   EAKPROCA____
   LPHMIDIIN X LOCALE ENUMPROCW
   " DWORD_X_GRAYSTRINGPROC_t_DESCKIND
    7 PHKEY" ® LPTOP LEVEL EXCEPTION_FILTER
   "_LCID___LPFNADDPROPSHEETPAGE__u_char__X_LOCALE_ENUMPROCA
    HRGN_t_ACL_INFORMATION_CLASS_t_SYSKIND___TIMECALLBACK@20_
   PACCESS_TOKEN____SC_LOCK__X_LINEDDAPROC___PHANDLER_ROUTIN
    E" ! PSECURITY DESCRIPTOR CONTROL t FUNCKIND
    FXPT2DOT30 LPLONG
      HGLRC HMIDIOUT t
    INVOKEKIND HMIDISTRM
25
      HFONT
       HPEN
      HICON
      PVOID
   tagMETARECORD " REGSAM t OLEUPDATE u MCIDEVICEID_
    LPSERVICE MAIN FUNCTIONW
30
                  HMETAFILE X ABORTPROC
    ! WORD_
    HDRVR $ LPSERVICE MAIN FUNCTIONA <u>ž</u>LPPRINTHOOKPROC_u_si
             LCSCSTYPE
    ze t
             LRESULT )
      PBYTE
    MFENUMPROC
35
    _é__FPTR
      HKEY
    __UCHAR
               PTHREAD START ROUTINE ! wctype t I RPC_HANDLE
      HDROP MEMBERID
      SHORT ! wchar t u MMRESULT ____XMIT_HELPER_ROUTINE ____RPC_BI
40
    NDING HANDLE
    _"_HIMC____I_RPC_MUTEX_
         HMIXEROBJ ž LPSETUPHOOKPROC_, RPC_BLOCKING_FUNCTION_
      HBRUSH X
    SENDASYNCPROC_!FILEOP_FLAGS_/_LPTIMECALLBACK___handle_t___H
45
    LOCAL
```

| | t HFILE P_TDP_TJ:\Vb60\Line21\XDSMessages.cP_V_g_— |
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| | "ÿ 4 9 B S f ° Ý é @ Q 1 x ^ ~ » Ì Ø é õ # / @ E V [d u ¥ ¶ Ø : K P "#%'()*+,/01234568: BCDEGHIJ_</th |
| | ø: K P "#%'()*+,/01234568: BCDEGHIJ</th |
| | Debug/I 21 Dec obiF < Microsoft (R) 32-bit C/C++ Optimizing Compiler Version |
| 5 | 10.00. ä M DllMain hInst" "_ul_reason_being_called |
| | lpReserved 2 d § O Line21Decode field ch p mes |
| | øÿÿÿt_j |
| | |
| | ch n mes jiÿÿÿE cstate . 4 	< R |
| 10 | _chp_mesüÿÿÿEcstate 4 <r_ ShiftRight"_valueshift ^¥_R ShiftLeft"_valueshift0</r_ |
| 10 | S DataState ° H CCstate \1 1 |
| | cStatePtr XMIT_ROUTINE_QUINTUPLE GENERIC_BINDING_IN |
| | FO tagRPCOLEMESSAGE & MALLOC FREE STRUCT" (GENERIC BIN |
| | DING ROUTINE PAIR & MALLOC_FREE_STRUCT*_COMM_FAULT_OFFS |
| 15 | ETS". FULL PTR TO REFID ELEMENT" (_GENERIC_BINDING_ROUTINE_P |
| 13 | AIR XMIT_ROUTINE_QUINTUPLE"_,PFULL_PTR_TO_REFID_ELEMENT |
| | 1 GUID 3 LPCI SID 6 tagENHMETARECORD |
| | 1 GUID 3 LPCLSID 6 tagENHMETARECORD 1 GUID L MIDL STUB DESC S FULL PTR XLAT TABLES PROP |
| | SHEETPAGEA f PROPSHEETPAGEW |
| 20 | 1 CLSID 7 YDSState IRncChannelBufferVthl DLGTEMPLATE I RP |
| 20 | C_SYNTAX_IDENTIFIER_Œ_EXCEPTION_RECORD_ZOVERLAPPED |
| | FLOATING SAVE AREA |
| | 1 IID "_DLGTEMPLATEPROPSHEETPAGEA'_LPDLGTEMPLATEAf |
| | PROPSHEETPAGEW_"_tagPOINT_—_CONTEXT_TM_RPC_VERSION |
| 25 | " POINTCONTEXT |
| 23 | |
| | HDWP_H_cState |
| | u_PUINTRPC_SS_THREAD_HANDLE_X_CALINFO_ENUMPROCWR |
| | PC AUTH_IDENTITY_HANDLE_6_ |
| 30 | ENHMETARECORD&_ |
| 30 | SECURITY CONTEXT TRACKING MODE X DATEFMT ENUMPROCW t |
| | PSID_NAME_USEMIDICALLBACK@20"_!_SECURITY_DESCRIPTOR_CONTROL |
| | |
| | EXPR_EVALž_LPFRHOOKPROCXCALINFO_ENUMPROCA;PFNC |
| 35 | ALLBACK_X_DATEFMT_ENUMPROCA_ \(\times \) ICMENUMPROCW_\(\times \)_ |
| 55 | POLIER VHANDLER |
| | @ FLOAT " LPDWORD RPC AUTHZ HANDLE uMMVERSION |
| | HRSRCRPC_FORWARD_FUNCTION@20"_®_PTOP_LEVEL_EXCEPTION_H |
| | ILTER |
| 40 | HCONV |
| | |
| | BYTE LONGLONG_a_LPPROPSHEETPAGEW_±_ICMENUMPROCA!LP |
| | WSTR " ACCESS MASK " COLORREF Z LPPROPSHEETPAGEA PIMAG |
| | F. TLS CALLBACK HWAVEOUT \$ PRPC RUNDOWNHENHMETAFILE |
| 45. | t_PBOOL_ |
| 10. | ng |

```
t SPTR ! LPOLESTR NDR CCONTEXT
    u_UINT_X_WNDENUMPROC_X_DESKTOPENUMPROCA____WNDPROC__"
                 DWORDLONG
   HREFTYPE #
   p_ LPSTR t
   TOKEN TYPE
   ! BSTR
   RPC NS HANDLE
      HDESK " PDWORD ° EXCEPTION POINTERS !
   CLIPFORMAT ! LPWORD t TYPEKIND X CODEPAGE ENUMPROCW
   p_HPSTR_d_LPFNPSPCALLBACKW_!_OLECHAR_X_ENUMRESLANGPROC
10
    t VARKIND X CODEPAGE ENUMPROCA ] LPFNPSPCALLBACKA
   RPC_BUFPTR_X_WINSTAENUMPROCW_½_RPC_AUTH_KEY_RETRIEVAL_FN
     !_ LPCOLESTR
                      SC_HANDLE
      HTASK À REGISTERWORDENUMPROCW X_TIMEFMT_ENUMPROCW_
   X WINSTAENUMPROCA
   _!_ATOM__!__LPCWSTR__X__DLGPROC__Ã__REGISTERWORDENUMPROCA_
    HOLEMENU
   _t_BOOL___RPC_OBJECT_INQ_FN@12
    "_ULONG__X__TIMEFMT_ENUMPROCA__«__PEXCEPTION_POINTERS__Æ__tag
   HELPINFO t CALLCONV LPMENUTEMPLATEA HGLOBAL LPVOI
20
    RPC IF HANDLE X HOOKPROC
    p PSTR _ž_LPCFHOOKPROC__!_USHORT__7_
    LPHMIDIOUT HRESULT
     PUCHAR___DISPID__È__PFULL_PTR_XLAT_TABLES__ž_LPCCHOOKPROC__
     LPBYTE
    X PROC
    A DATE Đ
    ENHMFENUMPROC
      PSID
30
    t LPINT
    Ñ SNB
    _p_CHAR__p_LPCSTR__Ó__SERVER_ROUTINE
      SCODE& Ø LPOVERLAPPED_COMPLETION_ROUTINE_Û_
        YIELDPROC_!_VARTYPE___HWAVEIN_ß_IRpcChannelBuffer_ß_IRpc
35
    ChannelBuffer ž_LPPAGEPAINTHOOK t
        OLERENDER_u_LPUINT_X_GOBJENUMPROC_
    HMETAFILEPICT Ñ_LPBSTR
    __byte__@__PFLOAT__"__PSECURITY_INFORMATION__$__NDR_RUNDOWN____
40
    LPCVOID_ "_SERVICE_STATUS_HANDLE__ž_LPPAGESETUPHOOK
    u u int ! wint_t_â_
    LPMMIOPROC
    STUB THUNK
    _9_ sval
45
    !_WCHAR____HGDIOBJ_X_ENUMRESNAMEPROC___HCONVLIST
```

| | HSZ |
|-----|--|
| | t INT HDDEDATA_å_tagHANDLETABLE_X_FARPROC_X_ |
| | PROPENUMPROCW_ " MCIERROR_ t LPBOOL |
| | PLONG_u_WPARAM |
| 5 | HMMIO ž |
| | LPOFNHOOKPROC_c_HPROPSHEETPAGE_QUERYHANDLER_X_ |
| | PROPENUMPROCA |
| | HKL HACCEL_" |
| | RPCOLEDATAREPVARIANT_BOOLHCURSOR_7_PHANDLE_é_ |
| 10 | onexit t X |
| 10 | FONTENUMPROCW"_LCTYPEîRPC_DISPATCH_FUNCTION |
| | " CALID |
| | RPC_STATUSHMIDIIN |
| | HDC 6 MSGBOXCALLBACK X |
| 15 | FONTENUMPROCA GENERIC UNBIND ROUTINE HBITMAP LPARA |
| | M |
| | MENUTEMPLATEW_7_LPHMIDISTRM_t_TOKEN_INFORMATION_CLASSD |
| | RVCALLBACK@20_ ÷RPC_MESSAGE |
| | MENI TEMPLATEA |
| 20 | HMIDIúPFNPROPSHEETCALLBACKPSECURITY_DESCRIPTOR |
| | HMENII HWINSTA |
| | LCSGAMUTMATCHRPC_CLIENT_FREE@4ý_PMIDL_STUB_DESC |
| | LONG NDR SCONTEXT |
| | ARRAY INFO p va list 7 LPHMIXER X TIMERPROC X |
| 25 | DRAWSTATEPROC HINSTANCE FOURCC FOR A FINE APPECTATION OF THE PROPERTY OF THE P |
| | MIDL_STUB_MESSAGE_"_SECURITY_INFORMATION_X_ENUMRESTYPEP |
| | ROC å HANDLETABLE 7 LPHWAVEIN |
| | PFORMAT_STRING_" CALTYPE_7_LPHANDLERPC_MGMT_AUTHORI |
| | ZATION_FN_! LANGID" t SECURITY IMPERSONATION_LEVELfpos_t_u_S |
| 30 | OCKET BOOLEAN 7 RPC EP INQ HANDLE |
| | HWND MMIOPROC@16 LPHANDLER_FUNCTION_t_EXCEPTION_DIS |
| | POSITION T XLAT SIDE |
| | HHOOKLPTHREAD_START_ROUTINE7_ LPHWAVEOUTHPALETTEXPROPENUMPROCEXWHMODULEW |
| 2.5 | AXEGALIDACE © OD DECCLIENT ALLOC © 4 HANDLE HMIXEK |
| 35 | PWORD_X_PROPENUMPROCEXAHCOLORSPACE_X_EDITWORDBR |
| | EAKPROCAGENERIC_BINDING_ROUTINE_!_u_short7_ |
| | LPHMIDIIN X_LOCALE_ENUMPROCW |
| | "_DWORDXGRAYSTRINGPROCt_DESCKIND |
| 40 | |
| 40 | "_LCIDLPFNADDPROPSHEETPAGEu_charXLOCALE_ENUMPROCA |
| | HRGN_t_ACL_INFORMATION_CLASS_t_SYSKINDTIMECALLBACK@20 |
| | |
| | PACCESS_TOKENSC_LOCKX_LINEDDAPROCPHANDLER_ROUTIN |
| 45 | E" ! PSECURITY_DESCRIPTOR_CONTROL_t_FUNCKIND |
| 7 | FXPT2DOT30 LPLONG |
| | * * * * * * * * * * * * * * * * * * * |

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   INVOKEKIND HMIDISTRM
       HFONT
       HPEN
5
       HICON
       PVOID
                                 OLEUPDATE u MCIDEVICEID_
   tagMETARECORD " REGSAM_t
    LPSERVICE MAIN_FUNCTIONW
                  HMETAFILE X ABORTPROC
    !_WORD
      _HDRVR__$__LPSERVICE_MAIN_FUNCTIONA__ž__LPPRINTHOOKPROC__u_si
10
             LCSCSTYPE
      PBYTE LRESULT )
    MFENUMPROC
    _é__FPTR
     HKEY
15
    __UCHAR
               PTHREAD START_ROUTINE_!_wctype_t__I_RPC_HANDLE
    ___HDROP___
                MEMBERID
     SHORT ! wchar_t_u_MMRESULT ___XMIT_HELPER_ROUTINE ___RPC_BI
    NDING HANDLE
    _"_HIMC
            I RPC MUTEX
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         HMIXEROBJ_ž_LPSETUPHOOKPROC__,_RPC_BLOCKING_FUNCTION__
      HBRUSH X
    SENDASYNCPROC_!FILEOP_FLAGS_/_LPTIMECALLBACK___handle_t___H
    LOCAL
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    = B X ] b x ] \Box \dot{\tau} \leftarrow
    ž_\{_______!"#%&')+,-/04@CEGHIJLNOPRSVWX[\]
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    X XDSEndState 0 Y URLDataState XMIT_ROUTINE_QUINTUPLE
    GENERIC_BINDING_INFO____tagRPCOLEMESSAGE_&__MALLOC_FREE_STRU
    CT"_(__GENERIC_BINDING_ROUTINE_PAIR__&__MALLOC_FREE_STRUCT__*_
35
     COMM_FAULT_OFFSETS"_.__FULL_PTR_TO_REFID_ELEMENT"_(__GENERIC_
    BINDING_ROUTINE_PAIR___XMIT_ROUTINE_QUINTUPLE"_,_PFULL_PTR_TO
    REFID ELEMENT
    _1__GUID_3_LPCLSID_6_tagENHMETARECORD
     1_GUID_L_MIDL_STUB_DESC_S__FULL_PTR_XLAT_TABLES____PROP
40
    SHEETPAGEA f PROPSHEETPAGEW
     1_CLSID__,_IRpcChannelBufferVtbl__,_DLGTEMPLATE_;__RPC_SYNTAX_ID
    ENTIFIER Œ EXCEPTION_RECORD Ž OVERLAPPED '_ FLOATING_SA
    VE AREA
    _1_IID__,__DLGTEMPLATE____PROPSHEETPAGEA__'_LPDLGTEMPLATEA__f
45
    PROPSHEETPAGEW__"_tagPOINT____CONTEXT_TM__RPC_VERSION
```

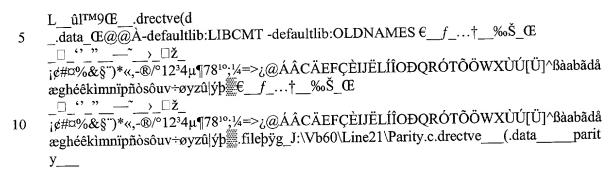
```
" POINT — CONTEXT
   3 LPIID ‰ PEXCEPTION RECORD > val context
      HDWP
    u PUINT
           RPC SS THREAD HANDLE X CALINFO ENUMPROCW R
   PC AUTH IDENTITY HANDLE 6
   ENHMETARECORD&
    SECURITY CONTEXT TRACKING MODE X DATEFMT ENUMPROCW
   PSID NAME USE MIDICALLBACK@20"! SECURITY DESCRIPTOR CONTROL
        EXPR EVAL ž LPFRHOOKPROC X CALINFO ENUMPROCA ; PFNC
10
   ALLBACK X DATEFMT ENUMPROCA ¤ ICMENUMPROCW ©
   PQUERYHANDLER
   @ FLOAT " LPDWORD RPC AUTHZ HANDLE uMMVERSION
      HRSRC RPC FORWARD FUNCTION@20" ® PTOP LEVEL EXCEPTION F
   ILTER
      HCONV
    BYTE__LONGLONG_a_LPPROPSHEETPAGEW_±_ICMENUMPROCA ! LP
   WSTR " ACCESS MASK " COLORREF Z LPPROPSHEETPAGEA ' PIMAG
   E TLS CALLBACK HWAVEOUT $ PRPC RUNDOWN HENHMETAFILE
   t PBOOL ‡ RPC SYNTAX IDENTIFIER X DESKTOPENUMPROCW " u lo
   ng
   t_SPTR_!_LPOLESTR__NDR CCONTEXT
   u UINT X WNDENUMPROC X DESKTOPENUMPROCA ¶ WNDPROC "
   HREFTYPE #
                DWORDLONG
   p LPSTR t
   TOKEN TYPE
   ! BSTR
   RPC NS HANDLE
      HDESK " PDWORD ° EXCEPTION POINTERS !
30
   CLIPFORMAT! LPWORD t TYPEKIND X CODEPAGE ENUMPROCW
   p HPSTR d LPFNPSPCALLBACKW ! OLECHAR X ENUMRESLANGPROC
    t VARKIND X CODEPAGE ENUMPROCA ] LPFNPSPCALLBACKA
   RPC BUFPTR X WINSTAENUMPROCW ½ RPC AUTH KEY RETRIEVAL FN
   __!_ LPCOLESTR__
                     SC HANDLE
35
      HTASK À REGISTERWORDENUMPROCW X TIMEFMT ENUMPROCW
   X WINSTAENUMPROCA
   ! ATOM ! LPCWSTR X DLGPROC Ã REGISTERWORDENUMPROCA
   HOLEMENU
   _t_BOOL___RPC_OBJECT_INQ_FN@12
   " ULONG X TIMEFMT ENUMPROCA « PEXCEPTION POINTERS Æ tag
   HELPINFO t CALLCONV LPMENUTEMPLATEA HGLOBAL LPVOI
   RPC IF HANDLE X HOOKPROC
45
   p PSTR ž LPCFHOOKPROC! USHORT 7
```

```
LPHMIDIOUT
                                                                                                   HRESULT
                                                                             _DISPID__È__PFULL_PTR_XLAT_TABLES__ž LPCCHOOKPROC
                               PUCHAR
                               LPBYTE
                       X PROC
                        A DATE Đ
   5
                      ENHMFENUMPROC
                                        PSID
                       t LPINT
                        	ilde{	ext{N}} SNB
                      p CHAR p LPCSTR Ó SERVER ROUTINE
10
                                    SCODE& Ø LPOVERLAPPED COMPLETION_ROUTINE_Û
                                                                                                                                                                                       HWAVEIN ß IRpcChannelBuffer_ß_IRpc
                                                   YIELDPROC! VARTYPE
                       ChannelBuffer ž LPPAGEPAINTHOOK t
                                                    OLERENDER u LPUINT X_GOBJENUMPROC
                      HMETAFILEPICT Ñ LPBSTR
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                          byte @ PFLOAT " PSECURITY INFORMATION $ NDR RUNDOWN
                      LPCVOID "_SERVICE_STATUS_HANDLE__ž_LPPAGESETUPHOOK
                           u u int ! wint_t â_
20
                        LPMMIOPROC
                        STUB_THUNK
                          9 sval
                                                                                HGDIOBJ X ENUMRESNAMEPROC___HCONVLIST
                        ! WCHAR
                                         HSZ
                                                                           HDDEDATA å tagHANDLETABLE X FARPROC X
25
                           t INT
                        PROPENUMPROCW " MCIERROR t L € €
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                        \bar{X}A \in p?\bar{\epsilon}1/49\bar{\epsilon}\$9\bar{\epsilon}HA\bar{\epsilon}">\bar{\epsilon}, \bar{>}\bar{\epsilon}@7\bar{\epsilon}\grave{a}?\bar{\epsilon}\eth?\bar{\epsilon}T@\bar{\epsilon}1/4@\bar{\epsilon}\$A\bar{\epsilon}H;\bar{\epsilon}\grave{E}2\bar{\epsilon}L6\bar{\epsilon}P7\bar{\epsilon}"8\bar{\epsilon}X3\bar{\epsilon}\_@\bar{\epsilon}\eth3\bar{\epsilon}\ddot{U}\bar{4}\bar{\epsilon}t5
                          \in \emptyset : \in \hat{O} > \in \$ > \in \emptyset \\ 9 \in \hat{I} \subset (A \in | 3 \in 4 \in 18 \in 9 \in 45 \in \square \\ 3 \in D @ \in \emptyset \\ 7 \in PC \in \% \\ B \in \mathcal{A} \in \S \\ 6 \in X = \bullet \\ 5 \in `5 \in `4 \in , < \in \emptyset \\ > \in ? \\
                         \in \ddot{\mathsf{U}} 3 \in \dot{\mathsf{I}}; \in \mathsf{d} 7 \in \ddot{\mathsf{C}} = \mathsf{C} - (a \in \dot{\mathsf{C}}) + (a \in \dot{\mathsf{
                             6€19€ä9€Ø;€Ü8€°<€|C€°;€_4€h:€$C€_<€èB€_6€1=€€=€€9€0;€"=€7€È4€ô8€¬B€~9€È6€t>
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                         C \in \mathbb{C} + \mathbb{C
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                         odr_breake_case_R_char1"_consthk_continuei9_defaultky_do_X_doublemQ_else
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                          È extern ° floatq' fors gotot
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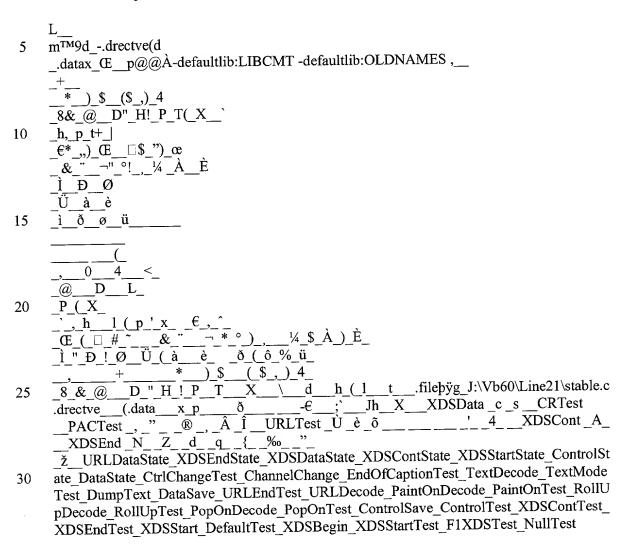
| | signed fm_size ofstatic_T_struct w_switch_l_typedef |
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| | union - unsigned > void2: volatile wy while ' inline (o cdecl. based, |
| | I stdcallÂ< declspec±Lasm²& catch classŏÅ const cast □^deleteñ i dynamic cas |
| | t_cfriend_ñ_€inlineŽinew™¢_operator⟨I_privateŒ©_protected□»_publicéûreinterpret_castÏ |
| 5 | static_cast³Étemplate'¹_this'&throwµtry{ô_typeid_&_virtualî— |
| 5 | static_cast Etemplateunim_static_unim |
| | inheritance_\$novtordisp_;resume_!nounwind_~_ syscall_rnear_ |
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| | export ô interrupt s loadds a saveregs Å segment 2 segname Ó self thiscall(ú_cdecl_Y_far fortran_r_huge_c_near_4_pascal_Ô_pascal©í_ |
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| 10 | tm^{a} excent/" finally (a) leave- |
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| | uiltin isfloat + wchar t " restrictÖÖ int8×m int16Øq int32U in |
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| 15 | evecall w near 1 far far 6 huge tortran export pasca |
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| | €naked 3 €thread · €allocate6 strset2 setimpd rotr\ rotl\ outpwv outpu outp |
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| 20 | ble ^a alloca" abnormal termination, ull rshiftØ<€ Il rshiftE Il Ishiftb_emuluu_ |
| | emul+ ReturnAddressŏ4€- atan2Z atanž asin»acos abs cosh*?€bcos¤exp*_imodg_iabsx |
| | innwe inpd¹/4inpi log1086€clog, labsA memsetômemcpyßmemcmp‰_outpwv_outpdr_ou |
| | tn7 now< strsetÆ strlenl strcpyW strcmp+ strcat. sqrt' sinhF sinR_tanh_\6_tan\2define |
| | d formalÇÄabstract declaratorf_main‡_WinMainDllMain»alignment |
| 25 | member z unnamed =€\$\$C.drectve¤ .local static |
| | guard.öCatch®_LOCAL_SIZE!LINEVar]LINE'FILE_\(\frac{1}{2}\)_DATE |
| | MTIME_\u00e4TIMESTAMP"INTEGRAL_MAX_BITS\u00e4M_IX86 |
| | MSC_VER, WIN32{ MT¹ WIN32Í NDEBUG8 WINDOWSÈ J:\Vb60\Line2 |
| | $\overline{1}\overline{\text{Parity.c}}\overline{\text{Az}}\underline{\in}\overline{\bigcup}\{\underline{\in}_{\{e\}}\{\underline{\in}\}\{\underline{\in}\}\{\underline{\in}\}\{e\}\}\}\underline{\in}\{e\}\{\underline{\in}\}\{e\}\{e\}\{e\}\{e\}\}\}\underline{\in}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\}\}\underline{\in}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\}\}\underline{\in}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{e\}\{$ |
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L_MAX_BITS=64_M_IX86=400_MSC_VER=1000_WIN32_MTWIN32NDEBUG_WIND
OWS

File: Parity.obj



File: stable.obj



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File: Tests.obj
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     .debug$F
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```

| | .debug\$F | | | | | |
|----|----------------|---------------|---------------|-------------------|---------------|--------------|
| | _text | . | | | | |
| | A .debug\$F | | | | | |
| | text | _Mdebug\$l | Etext_ | 5_Zdebug\$F | text | 5_h |
| 5 | debug\$F | text0_t | debug\$F | text0_□ | _ | |
| | .debug\$F | text0_0 | Edebug\$F_ | text&_ | _PACTest_ | |
| | debug\$F | text;_ž | debug\$F | text0_C | CRTest_ | |
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| 10 | EndTest_Contr | olTest_TextMo | deTest_RollUp | Test_PaintOnTest_ | _PopOnTest_Er | ndOfCaptionT |
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| | File: XDCMessages.obj |
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| 5 | m |
| | _P`.data_Ú_@_0À.data_i_@_0À.data_i_@_0À.data_o_@_0À.data_o_@_0À.data_o_@_0À.data_o_@_0À.data_o_@_0À |
| 10 | <pre>u_@_0À.data@_0À.debug\$F H_B.texth_*_'P`.data_Î @_0À.debug\$F_Đ àH_B-defaultlib:LIBCMT -defaultlib:OLDNAMES </pre> |
| 15 | $SV, \langle T\$W \langle \$_U\%$ $\S@_^B_{\langle fH_\acute{A}\grave{a}_fL_}@+\grave{A}_{\Box} < M^1\ddot{y}\ddot{y}\ddot{y}\ddot{o}\&+ \tilde{N}+\grave{u} \langle \acute{e} \langle \div^1\ddot{y}\ddot{y}\ddot{y}\ddot{v} \langle \acute{u}+\grave{A}_{O}\&O \langle \acute{I}\acute{A}\acute{e}_\acute{o} \Psi \langle \acute{I}f\acute{a}_\acute{o} \Xi \rangle \langle \acute{I}f\acute{a}_\acute{o} \Xi \rangle \langle \acute{I}\acute{A}\acute{e}_\acute{o} \Psi \rangle \langle \acute{I}\acute{A}\acute{e} \mathring{e}$ |
| | _6d XDS |
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f .datag g .datah £ 3/4 h .datai Ù i .dataj ï 5 j .datak k .datal 1 .datam ! m .datan___ h p .dataq ___ a_datar ___ • r_.datas___ ® s .datat 7 n .datao T o .datap × u .datav Ü+õ__CTypeÈ+v__typesH*v_î_@*v_ø_ à t .datau *v *v_XDSDisp v_Vcp Typ Def 10 $\overline{\text{XDSMes}}_{\text{V}} = \underbrace{\text{V}}_{\text{V}} \underbrace{\text{V}}_{\text{V}} = \underbrace{\text{C@}}_{\text{O}} = \underbrace{\text{O7OJHM@Roll4?5?5?$AA@??}}_{\text{C@}} = \underbrace{\text{O7FHBN@Roll3?5}}_{\text{O}} = \underbrace{\text{C@}}_{\text{O}} = \underbrace{\text{O7FHBN@Roll3?5}}_{\text{O}} = \underbrace{\text{C}}_{\text{O}} = \underbrace{\text{O7FHBN@Roll3?5}}_{\text{O}} = \underbrace{\text{O7FHBN@Roll3?5}}_{\text{O}} = \underbrace{\text{C}}_{\text{O}} = \underbrace{\text{O7FHBN@Roll3?5}}_{\text{O}} = \underbrace{\text{O7FHBN$?5?\$AA@?? C@ 07FAL@Roll2?5?5?\$AA@??_C@_07ILCI@Paint?5?5?\$AA@??_C@_0 7LFNA@Pop?5?5?5?\$?\$AA@?? C@_07PCEP@Western?\$AA@??_C@_07GGMB@Weat her?\$AA@??_C@_05HAHE@Video?\$AA@??_C@_07GOLO@Variety?\$AA@??_C@_06 MAKO@Travel?\$AA@?? C@_06IECD@Tennis?\$AA@?? C@_09MAPH@Technical?\$A 15 A@??_C@_04MNKN@Talk?\$AA@??_C@_08EABE@Suspense?\$AA@??_C@_07GALJ @Special?\$AA@??_C@_0L@NHB@Soap?5Opera?\$AA@??_C@_08HFCK@Shopping?\$ AA@?? C@ 07KNHF@Service?\$AA@?? C@ 06NHCF@Series?\$AA@??_C@_07LHB D@Science?\$AA@?? C@ 07HHNK@Romance?\$AA@?? C@ 06HNJB@Review?\$AA @?? C@ 06NPIB@Repeat?\$AA@?? C@ 06NNPN@Repair?\$AA@?? C@ 07NCCF@R 20 eading?\$AA@?? C@ 06DPOE@Racing?\$AA@?? C@_06GCHD@Public?\$AA@??_C@ 0N@EONA@Professional?\$AA@??_C@_07KKIB@Product?\$AA@??_C@_0M@BOC @Prerecorded?\$AA@?? C@ 08JKHO@Premiere?\$AA@??_C@ 08BGDL@Politics?\$AA @??_C@_06KJAF@Police?\$AA@??_C@_06BIAE@Nature?\$AA@??_C@_08CKMM@N ational?\$AA@??_C@_07GPIF@Mystery?\$AA@??_C@_05PHIM@Music?\$AA@??_C@_ 25 0L@IEGN@Miniseries?\$AA@?? C@ 08LHGP@Military?\$AA@?? C@ 07FDIO@Meeti ng?\$AA@?? C@ 07HHJI@Medical?\$AA@?? C@ 04LHAK@Math?\$AA@??_C@ 05P HNP@Local?\$AA@?? C@ 04HLML@Live?\$AA@?? C@ 05NPLB@Legal?\$AA@?? C @ 08DFDG@Language?\$AA@?? C@ 09IAGO@Interview?\$AA@??_C@_00@FJHI@I nternational?\$AA@?? C@ 0M@PJEI@Instruction?\$AA@?? C@ 0M@LKAF@Informati 30 on?\$AA@??_C@_06KKNE@Horror?\$AA@??_C@_04OGPG@Home?\$AA@??_C@_06K GO@Hockey?\$AA@?? C@ 05LHBI@Hobby?\$AA@?? C@ 07JFNM@History?\$AA@? ? C@ 0M@PJHA@High?5School?\$AA@??_C@_06MACP@Health?\$AA@??_C@_0L@ JHGG@Government?\$AA@??_C@_04NPML@Golf?\$AA@??_C@_06CMMI@Garden?\$ AA@??_C@_09CNCP@Game?1Quiz?\$AA@??_C@_0M@ENFA@Fund?5Raiser?\$AA@? 35 ? C@ 07JNNB@Foreign?\$AA@??_C@ 08NPEO@Football?\$AA@??_C@_04JEEI@Foo d?\$AA@?? C@ 07IHEG@Fiction?\$AA@?? C@ 07MCOL@Fashion?\$AA@?? C@ 04I FFI@Farm?\$AA@?? C@ 07OCKK@Fantasy?\$AA@?? C@ 08JEHB@Exercise?\$AA@? ? C@ 07NCAH@Erotica?\$AA@?? C@ 0L@JBPC@Elementary?\$AA@?? C@_05CGP O@Drama?\$AA@?? C@ 0M@NOLC@Documentary?\$AA@??_C@_05FKAK@Dance?\$ 40 AA@?? C@ 05HMON@Crime?\$AA@?? C@_0N@KIIC@Contemporary?\$AA@??_C@ 08JELE@Consumer?\$AA@?? C@_07DLE@Concert?\$AA@??_C@_0L@LGND@Com mentary?\$AA@??_C@_06IGJL@Comedy?\$AA@??_C@_06CAIJ@Combat?\$AA@??_C @ 07LGJO@College?\$AA@?? C@ 09JFNA@Classical?\$AA@??_C@ 08FMGD@Busin ess?\$AA@?? C@ 08FKAB@Bulletin?\$AA@?? C@ 0L@PKKG@Basketball?\$AA@?? 45 C@ 08GPNH@Baseball?\$AA@??_C@ 06IPOB@Awards?\$AA@??_C@_0L@CFFG@A

10

utomobile?\$AA@??_C@_09IADM@Anthology?\$AA@??_C@_08HEBO@Animated?\$AA @??_C@_00@PINI@Advertisement?\$AA@??_C@_06NMFG@Action?\$AA@??_C@_05 FGEM@OTHER?\$AA@??_C@_06BIM@Sports?\$AA@??_C@_09IEGM@Religious?\$A A@??_C@_04KJCI@News?\$AA@??_C@_05CHKH@Movie?\$AA@??_C@_00@JFFK @Entertainment?\$AA@??_C@_09HOLD@Education?\$AA@??_C@_06HOCB@TV?9MA ?5?\$AA@??_C@_06BJIF@TV?914?5?\$AA@??_C@_06KCEN@TV?9PG?5?\$AA@??_C @_04HI@TV?9G?\$AA@??_C@_06HFLA@TV?9Y7?5?\$AA@??_C@_04CMC@TV?9Y? \$AA@??_C@_04COF@None?\$AA@??_C@_09HKPO@Not?5Rated?\$AA@??_C@_01FI AI@X?\$AA@??_C@_05DMNK@NC?917?\$AA@??_C@_01FJJO@R?\$AA@??_C@_05 MAGO@PG?913?\$AA@??_C@_02DACJ@PG?\$AA@??_C@_01PACF@G?\$AA@??_C

Appendix C

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5 Cold Fusion Showtime File: AddComment.cfm 10 <cfif ParameterExists(Edit)> <cfif Len(Trim(NewComment)) GT 0> 15 <!--- Get the max of EventID's ---> <cfquery name="GetMax"</pre> datasource="VBIContent" username="caption" password="trewq55"> 20 select Max(Eventid)as maxid from ctlfile </cfquery> <cfset newEvent = '#incrementValue(GetMax.maxid)#'> 25 <!--- Insert a new record and pass EventID ---> <cfquery name="AddEvent"</pre> datasource="VBIContent" username="caption" 30 password="trewq55"> Insert into ctlfile (Eventid, Seconds, 35 Type, Clipsource, Comment 40 Values (#newEvent#, #LTime#, 'C', '#Clipsrc#', 45 '#NewComment#'

```
<!--- <body onLoad="window.close();"> --->
             <cfoutput>
             <cflocation url="./thankyou.cfm?LTime=#Ltime#&DS=VBIContent&Clipsrc=#ClipSrc#">
        10
             </cfoutput>
             </cfif>
             <font face="Arial" size="-1">Type in your comment, then press "Save"<br/>
15
             <!--- Use LTime for current time --->
             <form action="AddComment.cfm?Edit=Yes" method="POST"</pre>
onSubmit="setTimeout('window.close()',2000);">
             <cfoutput>
خدا
             <input type="Hidden" name="LTime" value="#LTime#">
<cfif ParameterExists(EventID)>
        20
<input type="Hidden" name="EventID" value="#EventID#">
II
             </cfif>
             <input type="Hidden" name="DS" value="#DS#">
<input type="Hidden" name="Clipsrc" value="#Clipsrc#">
        25
             </cfoutput>
             <center>
             <textarea name="NewComment" cols="40" rows="2" wrap="VIRTUAL"></textarea>
             <input type="Submit" value="Save"></center>
į. de
             </font>
             </form>
        30
```

</cfquery>

</cfif>
<!--- Close Window --->

5

```
File: banner2.cfm
     <html>
     <head>
5
     <title></title>
     </head>
     <SCRIPT LANGUAGE = "JavaScript">
     <!-- hide this script from old browsers
     LinkWindow="status=no,toolbar=yes,directories=no,menubar=yes,location=yes,scrollbars=y
10
     es,resizable=yes,HEIGHT=400,WIDTH=600";
     // -->
     </script>
     <body bgcolor="#5B94D1">
            <CFIF ParameterExists(imgsrc) AND ParameterExists(msg2)>
15
            <cfoutput>
            <A href="http://#msg2#" target="NetWin"
     onClick="window.open(",'NetWin',LinkWindow);"><IMG align="left" alt="#caption#"
     border=0 src="http://#imgsrc#"></a>
            </cfoutput>
20
            <CFELSE>
             
            </CFIF>
25
     </body>
     </html>
```

```
File: buttonbar2.cfm
     <html>
 5
     <head>
     <title></title>
     </head>
     <SCRIPT LANGUAGE = "JavaScript">
     name = 'mymainwindow';
10
     CaptionWin=null;
     <!-- hide this script from old browsers
     LinkWindow="status=no,toolbar=yes,directories=no,menubar=yes,location=no,scrollbars=ye
     s,resizable=yes,HEIGHT=480,WIDTH=640";
     SelectWindow="status=no,toolbar=yes,directories=no,menubar=yes,location=no,scrollbars=y
15
     es,resizable=yes,HEIGHT=400,WIDTH=600";
     function WinOpen()
     {
            if (CaptionWin == null)
20
                   CaptionWin = window.open("caption2.cfm", "CaptionWin",
     "menubar=0,toolbar=0,resizeable=0,width=320,height=360");
                   CaptionWin.focus();
                   document.forms[0].isWinOpen.value="true";
25
                   return false;
            }
            else
                   if (CaptionWin.closed == true)
30
                           CaptionWin = window.open("caption2.cfm", "CaptionWin",
      "menubar=0,toolbar=0,resizeable=0,width=320,height=360");
                           CaptionWin.focus();
                           document.forms[0].isWinOpen.value="true";
35
                           return false;
                    }
            }
     //function isWinOpen()
40
     //{
     //
            if (CaptionWin == null)
     //
     //
                    WinOpen();
     //
                    CaptionWin.hide();
45
                    return false;
     //
     //
            }
```

```
else
    //
    //
          {
    //
               if (CaptionWin.closed == true)
    //
5
    //
                     return false;
    //
    //
               else
    //
               {
    //
                          return true;
10
    //
    //
          }
    //}
    // --->
    </script>
15
    <!--- buttonbar in frame name="ButtonWin" --->
    <body bgcolor="#8FBC8F" text="Black" link="Blue" vlink="Blue" alink="#FF4500">
    <!--- <cfif Channel is ">
    onLoad="window.open('../Selector/index.cfm', 'SelectWin', LinkWindow);"
20
    <td width="10" rowspan="3"
    background="../images/site/transparent.gif">
25
               <img
    src="/IMAGES/site/buttonbar curve.jpg" border=0 alt="" align="top" width=14
    height=15>
30
                <font face="Arial" size="-1">
                          <a href="../Selector/channels.cfm" target="SelectWin"
    onClick="window.open(",'SelectWin',LinkWindow);">Channels</a>
35
                     <font face="Arial" size="-1">
    href="../Links/index.cfm?ClipSrc=<cfoutput>#Clipsrc#&DS=#DS#</cfoutput>"
    target="OutLinkWin" onClick="window.open(",'OutLinkWin',LinkWindow);">Links</a>
                     40
                <fort face="Arial" size="-1">
```

```
<font face="Arial" size="-1"> <a
    href="../Selector/selections.cfm" target="SelectWin"
    onClick="window.open(",'SelectWin',LinkWindow);">Selections</a>
               <font face="Arial" size="-1">
5
                         <cfif NOT Channel is ">
    href="../chat/index.cfm?Channel=<cfoutput>#Channel#</cfoutput>" target="OutLinkWin"
    onClick="window.open(",'OutLinkWin',LinkWindow);">Chat</a>
                         </cfif>
10
                    <!---
               15
                          <fort face="Arial" size="-1">
                          <cfif NOT Channel is ">
    href="caption2.cfm?Channel=<cfoutput>#Channel#</cfoutput>" target="CaptionWin"
    onClick="return(WinOpen())">CC</a>
                          </cfif>
20
               --->
    25
    <form name='SearchForm' action="../Links/search.cfm" target="OutLinkWin"
    on Submit = "window.open(", 'OutLinkWin', LinkWindow);\\
    setTimeout('document.SearchForm.reset()',2000);" method="POST">
30
         <input type="Hidden" name="isWinOpen" value="">
         <font face="Arial" size="1">
               Find <input type="Text" name="SrchFor" size="15" maxlength="50"></font>
               <center><font size="1"><input type="Submit"</pre>
35
    value="Search!"></font></center>
          </form>
          40
    </body>
    </html>
45
```

```
File: caption2.cfm
    <html>
    <head>
    <title>Closed Captioning</title>
5
    <script language="JavaScript">
    function SetUnLoad()
         opener.document.forms [0]. is Win Open.value = "false";\\
10
         window.close();
    </script>
    </head>
    <body bgcolor="ghostwhite">
    <!--- sponsor in frame name="SponsorWin" --->
15
    <form name="cc">
    20
         <CFIF ParameterExists(caption)>
         <cfoutput>
         <font size="-1">
         <textarea name='Caption' cols='40' rows='10'
25
    wrap="VIRTUAL">#Replace(caption,"||","","ALL")#</textarea>
         </font>
         </cfoutput>
         </cfif>
30
         </TR>
35
    </form>
    </TABLE>
    </body>
    </html>
```

```
File: comment2.cfm
     <html>
5
     <head>
     <title></title>
     </head>
     <SCRIPT LANGUAGE = "JavaScript">
     <!-- hide this script from old browsers
     CommWin=null;
10
     LinkWindow="status=no,toolbar=yes,directories=no,menubar=yes,location=yes,scrollbars=y
     es,resizable=yes,HEIGHT=400,WIDTH=600";
     SmallWindow="status=no,toolbar=yes,directories=no,menubar=no,location=no,scrollbars=n
     o,resizable=yes,HEIGHT=200,WIDTH=400";
15
     function WinOpen()
     {
            var ltime=parent.DataWin.document.Comments.ltime.value;
            var ltime 1=Math.floor(ltime/1000);
            var clip=parent.DataWin.document.Comments.Clipsrc.value;
20
            var ds=parent.DataWin.document.Comments.DS.value;
            var What_url="addcomment.cfm?LTime="+ltime_1+"&ds="+ds+"&Clipsrc="+clip;
            if (CommWin == null)
            {
                   CommWin = window.open(What_url, "CommWin", SmallWindow);
25
                   CommWin.focus();
            }
            else
30
                   if (CommWin.closed == true)
                   {
                          CommWin = window.open(What_url, "CommWin", SmallWindow);
                          CommWin.focus();
                   }
35
      function SetElapseTime()
40
            var ltime=parent.DataWin.document.Comments.ltime.value;
            var clip=parent.DataWin.document.Comments.Clipsrc.value;
            var ds=parent.DataWin.document.Comments.DS.value;
            location.href="addcomment.cfm?LTime="+ltime+"&ds="+ds+"&Clipsrc="+clip;
45
      // -->
```

```
</scripi>
     <body bgcolor="#F5F5F5" link="Blue" text="Black" vlink="#5B94D1" alink="#FF4500">
     <font face="Arial" size="-2">
                
5
     <!---
     <CFIF ParameterExists(LTime)>
     <a href="addcomment.cfm?LTime=#LTime#" target="CommWin"
     onClick="window.open(",'CommWin',SmallWindow);SetElapseTime();">
     <CFELSE>
     <a href="addcomment.cfm?LTime=0" target="CommWin"
10
     onClick="window.open(",'CommWin',SmallWindow);SetElapseTime();">
     </CFIF>
     --->
     <a href="#" onClick="WinOpen()">
     Add Your Comment</a><br>
15
     </font>
     <font face="Arial" size="1">
     <CFIF ParameterExists(msg)>
     <cfoutput>
     #Replace(msg,"||","","ALL")#
20
     </cfoutput>
     </cfif>
     </font>
     </body>
25
     </html>
```

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1000 H

File: community.cfm

5

<body bgcolor="ivory">

community in frame name="CommunityWin"

```
File: data2.cfm
     <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
5
     <html>
     <head>
           <title>Untitled</title>
     </head>
10
     <body>
     <form name="Sponsor" action="sponsor2.cfm" method="post" enctype="application/x-
     www-form-urlencoded" target="SponsorWin">
     <input type="Hidden" name="imgsrc" value="">
     <input type="Hidden" name="msg2" value="">
     <input type="Hidden" name="caption" value="">
15
     <input type="Hidden" name="Net" value="">
     <input type="Hidden" name="Channel" value="">
     </FORM>
     <form name="Links" action="linklist2.cfm" method="post" enctype="application/x-www-
20
     form-urlencoded" target="LinkListWin">
     <input type="Hidden" name="msg" value="">
     </FORM>
     <form name="Ad" action="banner2.cfm" method="post" enctype="application/x-www-form-
25
     urlencoded" target="BannerWin">
     <input type="Hidden" name="imgsrc" value="">
     <input type="Hidden" name="msg2" value="">
     <input type="Hidden" name="caption" value="">
     </FORM>
30
     <form name="Caption" action="caption2.cfm" method="post" enctype="application/x-www-
     form-urlencoded" target="CaptionWin">
     <input type="Hidden" name="caption" value="">
35
     </FORM>
     <form name="Comments" action="comment2.cfm" method="post" enctype="application/x-
     www-form-urlencoded" target="CommentWin">
     <input type="Hidden" name="ltime" value="0">
40
     <input type="Hidden" name="msg" value="">
     <CFOUTPUT>
     <input type="Hidden" name="Clipsrc" value="#Clipsrc#">
     <input type="Hidden" name="DS" value="#ds#">
     </CFOUTPUT>
     </FORM>
45
     </body>
```

</html>

TOGE AGIC CHILL

```
File: linklist2.cfm
     <html>
 5
     <head>
     <title></title>
     <SCRIPT LANGUAGE = "JavaScript">
     <!-- hide this script from old browsers
     LinkWindow="status=no,toolbar=yes,directories=no,menubar=yes,location=yes,scrollbars=y
     es,resizable=yes,HEIGHT=400,WIDTH=600";
10
     // -->
     </script>
     </head>
     <body bgcolor="#F4A460" link="Blue" text="Black" vlink="#5B94D1" alink="#FF4500">
     <font face="Arial" size="1">
15
       Current Links:
     <br/>br>
     <b>
     <CFIF ParameterExists(msg)>
20
     <cfoutput>
     #Replace(msg,"||","","ALL")#
     </cfoutput>
     </cfif>
     </font>
25
     </body>
     </html>
```

```
File: main2.cfm
     <cfparam name="Channel" default="">
     <cfparam name="Net" default="">
 5
     <cfparam name="Clipsrc" default="">
     <cfparam name="size" default="">
     <cfparam name="DS" default="Adserver">
10
     <script language="JavaScript">
     <!--- if (document.images) --->
        self.name = 'showtime';
      //-->
15
      </script>
     <!-- frames -->
     <frameset rows="*,0,62" framespacing="0" border="no" frameborder="0" marginwidth="0"
     marginheight="0" bordercolor="white">
       <frameset cols="169,*">
                   <frameset rows="132,90,*">
20
                   <frame name="SponsorWin"
     src="sponsor2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&ClipSrc=#Clipsrc#&DS=#
     DS#</cfoutput>" framespacing="0" border="0" frameborder="0" marginwidth="0"
     marginheight="0" bordercolor="white" scrolling="No" noresize>
                          <frame name="ButtonWin"
25
     src="buttonbar2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&Clipsrc=#Clipsrc#&Size
     =#Size#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0"
     marginwidth="0" marginheight="0" bordercolor="white" scrolling="no" frameborder="no">
                          <frame name="LinkListWin"</pre>
     src="linklist2.cfm?<cfoutput>Clipsrc=#Clipsrc#&DS=#DS#</cfoutput>" framespacing="0"
30
     border="0" frameborder="0" marginwidth="0" marginheight="0" bordercolor="white"
     scrolling="no" noresize frameborder="no">
                   </frameset>
                    <frame name="StreamWin"</pre>
     src="stream2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&Clipsrc=#Clipsrc#&Size=#
35
     Size#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0"
     marginwidth="0" marginheight="0" bordercolor="white" scrolling="no" frameborder="no">
            </frameset>
        <frame name="DataWin"</pre>
40
     src="data2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&Clipsrc=#Clipsrc#&Size=#Siz
     e#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0" marginwidth="0"
     marginheight="0" bordercolor="white" scrolling="no" frameborder="no">
            <frameset cols="*,468">
                   <frame name="CommentWin"</pre>
45
     src="comment2.cfm?<cfoutput>Clipsrc=#Clipsrc#&DS=#DS#</cfoutput>"
```

```
File: main3.cfm
     <cfparam name="Channel" default="">
     <cfparam name="Net" default="">
5
     <cfparam name="Clipsrc" default="">
     <cfparam name="size" default="">
     <cfparam name="DS" default="Adserver">
10
     <script language="JavaScript">
     <!--- if (document.images) --->
        self.name = 'showtime';
     //-->
15
      </script>
     <!-- frames -->
     <frameset rows="*,62" framespacing="0" border="0" frameborder="0" marginwidth="0"
     marginheight="0" bordercolor="white">
       <frameset cols="169,*,0">
                   <frameset rows="132,130,*">
20
                   <frame name="SponsorWin"</pre>
     src="sponsor2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&ClipSrc=#Clipsrc#&DS=#
     DS#</cfoutput>" framespacing="0" border="0" frameborder="0" marginwidth="0"
     marginheight="0" bordercolor="white" scrolling="No" noresize>
25
                          <frame name="ButtonWin"</pre>
     src="buttonbar2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&Clipsrc=#Clipsrc#&Size
     =#Size#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0"
     marginwidth="0" marginheight="0" bordercolor="white" scrolling="no" frameborder="no">
                          <frame name="LinkListWin"</pre>
     src="linklist2.cfm?<cfoutput>Clipsrc=#Clipsrc#&DS=#DS#</cfoutput>" framespacing="0"
30
     border="0" frameborder="0" marginwidth="0" marginheight="0" bordercolor="white"
     scrolling="no" noresize frameborder="no">
                    </frameset>
        <frame name="StreamWin"</pre>
     src="stream3.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&Clipsrc=#Clipsrc#&Size=#
35
     Size#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0"
     marginwidth="0" marginheight="0" bordercolor="white" scrolling="no" frameborder="no">
        <frame name="DataWin"</pre>
     src="data2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&Clipsrc=#Clipsrc#&Size=#Siz
     e#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0" marginwidth="0"
40
     marginheight="0" bordercolor="white" scrolling="no" frameborder="no">
        </frameset>
            <frameset cols="*,468">
            <frame name="CommentWin"</pre>
     src="comment2.cfm?<cfoutput>Clipsrc=#Clipsrc#&DS=#DS#</cfoutput>"
45
```

framespacing="0" border="0" frameborder="0" marginwidth="0" marginheight="0" bordercolor="white" scrolling="no" noresize frameborder="no"> <frame name="BannerWin" src="banner2.cfm?<cfoutput>Clipsrc=#Clipsrc#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0" marginwidth="0" marginheight="0" bordercolor="white" scrolling="no" noresize frameborder="no">

</frameset>

10

```
File: main4.cfm
     <cfparam name="Channel" default="">
     <cfparam name="Net" default="">
     <cfparam name="Clipsrc" default="">
     <cfparam name="size" default="">
     <cfparam name="DS" default="Adserver">
     <script language="JavaScript">
10
     <!--- if (document.images) --->
        self.name = 'showtime';
      //-->
15
      </script>
     <!-- frames -->
     <frameset rows="*,62" framespacing="0" border="0" frameborder="0" marginwidth="0"
     marginheight="0" bordercolor="white">
       <frameset cols="169,*,0">
                   <frameset rows="132,130,*">
20
                   <frame name="SponsorWin"</pre>
     src="sponsor2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&ClipSrc=#Clipsrc#&DS=#
     DS#</cfoutput>" framespacing="0" border="0" frameborder="0" marginwidth="0"
     marginheight="0" bordercolor="white" scrolling="No" noresize>
                          <frame name="ButtonWin"
25
     src="buttonbar2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&Clipsrc=#Clipsrc#&Size
     =#Size#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0"
     marginwidth="0" marginheight="0" bordercolor="white" scrolling="no" frameborder="no">
                          <frame name="LinkListWin"</pre>
     src="linklist2.cfm?<cfoutput>Clipsrc=#Clipsrc#&DS=#DS#</cfoutput>" framespacing="0"
30
     border="0" frameborder="0" marginwidth="0" marginheight="0" bordercolor="white"
      scrolling="no" noresize frameborder="no">
                    </frameset>
        <frame name="StreamWin"</pre>
      src="stream4.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&Clipsrc=#Clipsrc#&Size=#
35
      Size#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0"
      marginwidth="0" marginheight="0" bordercolor="white" scrolling="no" frameborder="no">
        <frame name="DataWin"</pre>
      src="data2.cfm?Channel=<cfoutput>#Channel#&Net=#Net#&Clipsrc=#Clipsrc#&Size=#Siz
      e#&DS=#DS#</cfoutput>" framespacing="0" border="0" frameborder="0" marginwidth="0"
40
      marginheight="0" bordercolor="white" scrolling="no" frameborder="no">
        </frameset>
             <frameset cols="*,468">
             <frame name="CommentWin"</pre>
      src="comment2.cfm?<cfoutput>Clipsrc=#Clipsrc#&DS=#DS#</cfoutput>"
45
```

</frameset>

```
File: search.cfm
     <html>
 5
     <head>
     <title>Search</title>
     </head>
     <SCRIPT LANGUAGE="JavaScript">
      window.name="OutLinkWin";
10
      </SCRIPT>
     <body onLoad="if (window.focus) self.focus(); else alert('Page Loaded');">
15
     search Window
20
     <form>
     <input type="Button" value="Close" onClick="window.close();">
     </form>
25
     </body>
      </html>
```

File: selector.cfm

```
File: sponsor2.cfm
   <cfquery name="GetNet" datasource="TV">
   Select* from NetStns
5
    Where Call = '#Net#'
    </cfquery>
    <cfquery name="GetChannel" datasource="TV">
    Select* from NetStns
10
    Where Call = '#Channel#'
    </cfquery>
    <html>
    <head>
15
    <title>sponsor</title>
    </head>
    <SCRIPT LANGUAGE = "JavaScript">
    <!-- hide this script from old browsers
20
    LinkWindow="status=no,toolbar=yes,directories=no,menubar=yes,location=yes,scrollbars=y
    es,resizable=yes,HEIGHT=400,WIDTH=600";
    // -->
    function setSponsor(msg1)
25
    document.writeln(msg1);
    </script>
    <br/><body bgcolor="#228B22">
30
    <!--- sponsor in frame name="SponsorWin" --->
    <IMG align="middle" alt="" border=0 height=132 src="/images/site/sponsor_curve.gif"
    width=30></a>
    </TD>
    40
    </TR>
    45
```

```
<cfif GetNet.recordcount gt 0>
          <cfoutput>
          <a href="http://#GetNet.LinkURL#" target="NetWin"
    onClick="window.open(",'NetWin',LinkWindow);"><IMG align="middle"
5
    alt="#GetNet.LinkText#" border=0 height=32 src="#getNet.ImageLoc#" width=32></a>
          </cfoutput>
          <cfelse>
           
10
          </cfif>
          <a href="http://ilovetv.ca" target="new"><IMG align="middle" alt="" border=0
    height=32 src="/images/ads/network/love.jpg" width=32></a>
15
          <cfif GetChannel.recordcount GT 0>
          <cfoutput>
          <a href="http://#GetChannel.LinkURL#" target="NetWin"
20
     onClick="window.open(",'NetWin',LinkWindow);"><IMG align="middle"
     alt="#GetChannel.LinkText#" border=0 height=32 src="#getChannel.ImageLoc#"
     width=32></a>
          </cfoutput>
           <cfelse>
25
            
           </cfif>
           30
           </TR>
     <CFIF ParameterExists(imgsrc) AND ParameterExists(msg2)>
35
           <cfoutput>
           <A href="http://#msg2#" target="NetWin"
     onClick="window.open(",'NetWin',LinkWindow);"><IMG align="left" alt="#caption#"
     border=0 src="http://#imgsrc#"></a>
           </cfoutput>
40
           <CFELSE>
            
           </CFIF>
     </TD>
45
```

```
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s
```

</TR> </TABLE>
</body>
</html>> 5

```
File: stream2.cfm
     <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
5
     <html>
     <head>
           <title>Untitled</title>
     </head>
10
     <cfif Trim(Channel) is "or channel is ' '>
     <body bgcolor="#228B22" leftmargin=3 topmargin=3>
     <!---
            <a href="http://home.sol.no/~ggunners/NetBird.html">Net Bird</a>
15
            <br><br><br>>
            <fort face="Arial" size="+1" color="Blue">Select a program to view.<br><br>
            Selections button presents archived shows for this demo. <br/>br><br/>br>
20
            Channels button presents a channel selector mock-up. <br/> br> <br/> br>
            Links button shows all the links from the current program. <br/>br><br/>br>
            Almost everything on the screen is a live link to the internet.
     25
       <br>
30
            </center>
            </font>
     </body>
     </html>
35
     <cfelse>
      <script language="javascript">
      <!--
40
      var count = 0;
      var doPolling;
      var Ver4 = parseInt(navigator.appVersion) >= 4;
      var Nav4 = ((navigator.appName == "Netscape") && Ver4);
      var IE4 = ((navigator.userAgent.indexOf("MSIE") != -1) && Ver4);
45
```

```
var Messages = ";
     var msg=";
     var Current_time=0;
     //caption
5
     var c_msg=";
     var c count=0;
     //link
     var 1_count=0;
     var1 msg=";
10
     //comment
     var m_count=0;
     var m_msg=";
     var isAppletReady=false;
15
     CaptionWin=null;
     <CFOUTPUT>
     var Net='#Net#';
     var Channel='#Channel#';
     </CFOUTPUT>
     // Save window content dimensions to work around resize
20
     // behaviour in WIN32 versions of Navigator 4.
     if (Nav4)
      {
            var origWidth = window.innerWidth;
            var origheight = window.innerHeight;
25
      }
      function WinOpen()
            if (CaptionWin == null)
30
                    CaptionWin = window.open("caption2.cfm", "CaptionWin",
      "menubar=0,toolbar=0,resizeable=0,width=320,height=180");
                    CaptionWin.focus();
35
                    return false;
             else
             {
                    if (CaptionWin.closed == true)
40
                           CaptionWin = window.open("caption2.cfm", "CaptionWin",
      "menubar=0,toolbar=0,resizeable=0,width=320,height=360");
                           CaptionWin.focus();
                           return false;
                    }
45
             }
```

```
// Invoked by <body> tag's onResize event handler to refresh the page for
     // Navigator 4 to assist in getting positioned elements back in place.
     function RestorePage()
5
     {
            if (Nav4)
             {
                   if (origWidth != window.innerWidth || origHeight != window.innerHeight)
                           history.go(0);
10
             }
      }
     function SendChatMessage(Author, Type, Message)
15
      {
             document.applets[0].SendMessage(Author, Type, Message);
      function SendElapsedTimeToApplet(Time)
20
      {
             //var tx=Time/1000;
             //var tx1=Math.floor(tx);
             document.applets[0].SendElapsedTime(Time);
      }
25
      function HandleSessionMessageEx(Author, Type, Message)
      {
             if (IE4)
30
             document.forms[0].WhatPosition.value=Message;
             else if (Nav4)
             document.forms[0].WhatPosition.value=Message;
35
             }
      }
40
      function HandleAppletLoad(Message)
                    isAppletReady=true;
45
      function HandleElapsedTime(Message)
```

```
{
            if (IE4)
            document.forms[0].WhatPosition.value=Message;
 5
            else if (Nav4)
            document.forms[0].WhatPosition.value=Message;
10
            }
     function HandleSponsor(Message1,Message2,Message3)
            //Handle the images in the SponsorWin frame
15
            parent.DataWin.document.Sponsor.imgsrc.value = Message1;
            parent.DataWin.document.Sponsor.msg2.value = Message2;
            parent.DataWin.document.Sponsor.caption.value = Message3;
            parent.DataWin.document.Sponsor.Net.value = Net;
            parent.DataWin.document.Sponsor.Channel.value = Channel;
20
            HandleLinks(Message2, Message3, "");
            parent.DataWin.document.Sponsor.submit();
25
      function HandleLinks(Message1, Message2, Message3)
             var Type=Message3;
             if(Type == "old")
30
                    1 msg="<a href='http://"+Message1+" target='NetWin'
      onClick=\"window.open(",'NetWin',LinkWindow)\">"+Message2+"</a><br>||"+l_msg;
             else
35
             {
                    1 msg="<a href='http://"+Message1+"' target='NetWin'
      onClick=\"window.open(",'NetWin',LinkWindow)\">"+Message2+"</a><br>||"+l_msg;
             }
40
             1 count++;
             if(1 count >5)
                           var last=1 msg.lastIndexOf("||");
                           1 \text{ msg} = 1 \text{ msg.substring}(0, \text{last});
45
             }
```

```
parent.DataWin.document.Links.msg.value = l_msg;
parent.DataWin.document.Links.submit();
```

```
5
     function HandleAd(Message1, Message2, Message3)
            //Handle the images in the SponsorWin frame
            parent.DataWin.document.Ad.imgsrc.value = Message1;
10
            parent.DataWin.document.Ad.msg2.value = Message2;
            parent.DataWin.document.Ad.caption.value = Message3;
            HandleLinks(Message2,Message3,"");
            parent.DataWin.document.Ad.submit();
15
     function HandleCaption(msg)
            if(msg !=")
20
                   if(c_count >5)
                          var last=c msg.lastIndexOf("||");
                          c msg = c msg.substring(0,last);
                          c msg=msg+"\r\n||"+c msg;
                   }
25
                   else
                   {
                          c_msg=msg+"\r\n||"+c_msg;
                   //Handle the images in the SponsorWin frame
30
                   if(CaptionWin == null || CaptionWin.closed == true)
                   else
35
                    {
                           parent.DataWin.document.Caption.caption.value = c_msg;
                           parent.DataWin.document.Caption.submit();
             c_count++;
40
      }
45
      function HandleComments(msg)
      {
```

if(msg !=")

```
if(m_count > 5)
                                   var last=m msg.lastIndexOf("||");
         5
                                  m msg = m_msg.substring(0,last);
                                  m_msg=msg+"<BR>||"+m_msg;
                            }
                           else
       10
                            {
                                   m_msg=msg+"<BR>||"+m_msg;
                    parent.DataWin.document.Comments.msg.value = m_msg;
                    parent.DataWin.document.Comments.submit();
       15
                    m count++;
}
             }
į.
in
       20
Will Ham
             function HandleSessionErrorEx(ErrNumber, ErrDescription)
                    alert(ErrDescription);
}
        25
             function SendElapsedTime()
                    if(document.video1.GetPlayState()== 3)
        30
                      // Make sure that the applet has been loaded
                      if(isAppletReady)
                      {
                                   var ElpTime=document.video1.GetPosition();
        35
                                   if(ElpTime != ")
                                   Send Elapsed Time To Applet (Elp Time);\\
                                   parent.DataWin.document.Comments.ltime.value = ElpTime;
        40
                                   polling();
                            else
                                   alert("The Applet on your browser has not been started. Please refresh
        45
              your page");
                                   stopPolling();
```

```
}
            }
            else
 5
          doPolling = setTimeout("SendElapsedTime()",500);
     }
     function stopPolling()
10
          clearTimeout(doPolling)
     function polling()
15
          doPolling = setTimeout("SendElapsedTime()",1000);
     }
     //-->
20
     </script>
     <body bgcolor="#228B22" leftmargin=3 topmargin=3>
     <applet id="ChatApplet" width="1" height="1" code="ChatClient.class"</pre>
25
     codebase="http://blanche.tcn.net:8090/" VIEWASTEXT mayscript>
     <param name="MessageHandler" value="HandleSessionMessageEx">
     <param name="ElapsedTimeMessageHandler" value="HandleElapsedTime">
     <param name="ErrorHandler" value="HandleSessionErrorEx">
     <param name="SponsorHandler" value="HandleSponsor">
30
     <param name="LinksHandler" value="HandleLinks">
     <param name="CaptionHandler" value="HandleCaption">
     <param name="AdHandler" value="HandleAd">
     <param name="CommentsHandler" value="HandleComments">
     <param name="CaptionHandler" value="HandleCaption">
35
     <param name="ErrorHandler" value="HandleSessionErrorEx">
     <param name="TimeHandler" value="HandleTime">
     <param name="isAppletLoad" value="HandleAppletLoad">
     <CFOUTPUT>
     <param name="ClipSource" value="#ClipSrc#">
40
     </CFOUTPUT>
     </applet>
     <script Language="JavaScript">
     polling();
45
     </script>
```

```
<table width="100%" border="0" cellspacing="0" cellpadding="0" align="LEFT"
     valign="TOP">
     <!--- stream in frame name="streamWin" --->
5
            <cfparam name="Channel" default="">
            <cfparam name="Net" default="">
            <cfparam name="Clipsrc" default="">
            <cfparam name="size" default="">
10
            <cfif Size is 'S'>
                   <cfset Width=320>
                    <cfset Height=240>
            <cfelseif Size is 'L'>
15
                    <cfset Width=512>
                    <cfset Height=384>
                    <cfelseif Size is 'X'>
                    <cfset Width=240>
                    <cfset Height=180>
20
            </cfif>
            <efif Not Clipsrc is ">
                    <cfif ClipSrc is "SunPar3" and Size is "L">
25
                           <cfset cliploc =
      'http://www.broadcast.com/business/sun/98par3challenge_102099_100.ram'>
                    <cfelseif ClipSrc is "SunPar3" and Size is "S">
                           <cfset cliploc =
      'http://www.broadcast.com/business/sun/98par3challenge 102099 56.ram'>
30
                    <cfelseif ClipSrc is "Live001" and Size is "S">
                           <cfset cliploc = '/media/56k/Live001.ram'>
                    <cfelseif ClipSrc is "Auction" and Size is "S">
                           <cfset cliploc = '/media/56k/auction.ram'>
35
                    <cfelse>
                           <cfif Size is 'S'>
                                  <cfset cliploc = '/media/56k/#Clipsrc#.ram'>
                           <cfelseif Size is 'L'>
40
                                  <cfset cliploc = '/media/108k/#Clipsrc#.ram'>
                           <cfelse>
                                  <cfset cliploc = '/media/#Clipsrc#.ram'>
                           </cfif>
                    </cfif>
45
             </cfif>
```

```
<center>
           <cfoutput>
           <object
5
            ID=video1
            CLASSID="clsid:CFCDAA03-8BE4-11cf-B84B-0020AFBBCCFA"
            height=#Height#
            width=#Width#
            >
10
            <param name="controls" value="ImageWindow">
            <param NAME="console" VALUE="Clip1">
            <param NAME="autostart" VALUE="true">
            <param NAME="src" VALUE="#Cliploc#">
            <embed name="video1" SRC="#Cliploc#"</pre>
15
            type="audio/x-pn-realaudio-plugin"
            CONSOLE="Clip1"
            controls="ImageWindow"
            height=#Height#
            width=#Width#
20
            AUTOSTART=true>
            </object>
            <BR>
25
            <form>
            <input type="Button" name="Play_Button" value="Play"
     onClick="document.applets[0].init();document.video1.DoPlay();polling()">
            <input type="Button" name="Pause_Button" value="Pause"
     onClick="document.video1.DoPause();stopPolling();">
            <input type="Button" name="Stop Button" value="Stop"
30
     onClick="document.video1.DoStop();stopPolling();">
            <input type="Button" name="position" value="Position"
     onClick="javascript:alert(document.video1.GetPosition())">
            <input type="Button" name="buffer" value="Send"</pre>
     onClick="SendChatMessage('ripu', 'ChatMessage', document.video1.GetPosition())">
35
            <input type="Text" name="WhatPosition"> --->
            </form>
            </cfoutput>
            </center>
     40
     <fort face="Arial" size="-1">
45
     href="caption2.cfm?Channel=<cfoutput>#Channel#</cfoutput>" target="CaptionWin"
```

```
onClick="return(WinOpen())"><img src="/images/site/CC.gif" width=28 height=23 border=1 alt="Closed Captioning" align="right"></a> 

5 </body></body></br>
</body></br>
</body>
```

```
File: stream3.cfm
     <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
     <html>
5
     <head>
            <title>Untitled</title>
     </head>
     <cfif Trim(Channel) is "or channel is ' '>
10
     <br/><body bgcolor="#228B22" leftmargin=3 topmargin=3>
            <a href="http://home.sol.no/~ggunners/NetBird.html">Net Bird</a>
            <br><br><br>>
15
            <font face="Arial" size="+1" color="Blue">Select a program to view.<br><br>
            Selections button presents archived shows for this demo.<br/>br><br/>br>
            Channels button presents a channel selector mock-up.<br/>br><br/>br>
20
            Links button shows all the links from the current program. <br/>br><br/>br>
            Almost everything on the screen is a live link to the internet.
     25
              <br>
            </center>
30
            </font>
     </body>
     </html>
     <cfelse>
35
     <script language="javascript">
     <!--
     var count = 0;
     var doPolling;
40
      var Ver4 = parseInt(navigator.appVersion) >= 4;
      var Nav4 = ((navigator.appName == "Netscape") && Ver4);
      var IE4 = ((navigator.userAgent.indexOf("MSIE") != -1) && Ver4);
      var Messages = ";
45
      var msg=";
```

```
var c msg=";
     var Current time=-1000;
     CaptionWin=null;
     var c count=0;
     // Save window content dimensions to work around resize
     // behaviour in WIN32 versions of Navigator 4.
     if (Nav4)
      {
            var origWidth = window.innerWidth;
            var origheight = window.innerHeight;
10
     // Invoked by <body> tag's onResize event handler to refresh the page for
     // Navigator 4 to assist in getting positioned elements back in place.
15
      function RestorePage()
      {
            if (Nav4)
                    if (origWidth != window.innerWidth || origHeight != window.innerHeight)
20
                           history.go(0);
             }
      }
25
      function SendChatMessage(Author, Type, Message)
      {
             document.applets[0].SendMessage(Author, Type, Message);
30
      function SendElapsedTimeToApplet(Time)
      {
             document.applets[0].SendElapsedTime(Time);
      }
35
      function HandleSessionMessageEx(Author, Type, Message)
      {
             if (IE4)
40
             document.forms[0].WhatPosition.value=Message;
             else if (Nav4)
             document.forms[0].WhatPosition.value=Message;
45
```

```
}
     }
5
     function HandleElapsedTime(Message)
            if (IE4)
            document.forms[0].WhatPosition.value=Message;
10
            else if (Nav4)
            document.forms[0].WhatPosition.value=Message;
15
            }
     function HandleSponsor(Message1,Message2,Message3)
            //Handle the images in the SponsorWin frame
20
            parent.DataWin.document.Sponsor.imgsrc.value = Message1;
            parent.DataWin.document.Sponsor.msg2.value = Message2;
            parent.DataWin.document.Sponsor.caption.value = Message2;
            parent.DataWin.document.Sponsor.submit();
25
     function HandleLinks(Message1, Message2, Message3)
            var Type=Message3;
            if(Type == "old")
30
                   msg=msg+"<a href=""+Message1+"" target='NetWin'
     onClick=window.open(",'NetWin',LinkWindow);>"+Message2+"</a><br/>br>";
            else
35
                   msg="<a href=""+Message1+"" target='NetWin'
      onClick=window.open(",'NetWin',LinkWindow);>"+Message2+"</a><br/>br>";
40
            parent.DataWin.document.Links.msg.value = msg;
            parent.DataWin.document.Links.submit();
45
      function HandleTime(Message)
```

```
first start could be a time first term of the first term of the first term of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first start of the first s
```

```
{
                   Current time=Message;
     }
     function HandleAd(Message1,Message2, Message3)
 5
            //Handle the images in the SponsorWin frame
            parent.DataWin.document.Ad.imgsrc.value = Message1;
            parent.DataWin.document.Ad.msg2.value = Message2;
            parent.DataWin.document.Ad.caption.value = Message2;
10
            parent.DataWin.document.Ad.submit();
     function WinOpen()
            if (CaptionWin == null)
15
                   CaptionWin = window.open("caption2.cfm", "CaptionWin",
     "menubar=0,toolbar=0,resizeable=0,width=320,height=360");
                   CaptionWin.focus();
                   return false;
20
            }
            else
             {
                   if (CaptionWin.closed == true)
25
                    {
                          CaptionWin = window.open("caption2.cfm", "CaptionWin",
     "menubar=0,toolbar=0,resizeable=0,width=320,height=360");
                           CaptionWin.focus();
                           return false;
30
                    }
             }
      }
      function HandleCaption(msg)
35
             if(msg !=")
                    if(c_count >5)
                           var first=c msg.indexOf("||");
40
                           c msg = c msg.substring(first+2);
                           c msg=c msg+"\r\n||"+msg;
                    else
45
                           c msg=c msg+"\r\n||"+msg;
```

```
//Handle the images in the SponsorWin frame
                    if(CaptionWin == null || CaptionWin.closed == true)
 5
                    else
                          parent. Data Win. document. Caption. caption. value = c\_msg;
                          parent.DataWin.document.Caption.submit();
10
             c_count++;
      }
15
      function HandleComments(Message)
             if (IE4)
             document.forms[0].WhatPosition.value=Message;
20
             else if (Nav4)
             document.forms[0].WhatPosition.value=Message;
25
             }
      }
30
      function HandleSessionErrorEx(ErrNumber, ErrDescription)
             alert(ErrDescription);
35
      function SendElapsedTime()
                    SendElapsedTimeToApplet(Current_time);
40
                    Current time+=1000;
                    polling();
      function stopPolling()
45
```

```
clearTimeout(doPolling)
     function polling()
 5
         doPolling = setTimeout("SendElapsedTime()",1000);
     //-->
     </script>
10
     <CFOUTPUT>
     <body bgcolor="##228B22" leftmargin=3 topmargin=3>
     </CFOUTPUT>
     <applet id="ChatApplet" width="1" height="1" code="ChatClient.class"</pre>
15
     codebase="http://blanche.tcn.net:8090/" VIEWASTEXT mayscript>
     <param name="MessageHandler" value="HandleSessionMessageEx">
     <param name="ElapsedTimeMessageHandler" value="HandleElapsedTime">
     <param name="ErrorHandler" value="HandleSessionErrorEx">
     <param name="SponsorHandler" value="HandleSponsor">
20
     <param name="LinksHandler" value="HandleLinks">
     <param name="CaptionHandler" value="HandleCaption">
     <param name="AdHandler" value="HandleAd">
     <param name="CommentsHandler" value="HandleComments">
     <param name="CaptionHandler" value="HandleCaption">
25
     <param name="ErrorHandler" value="HandleSessionErrorEx">
     <param name="TimeHandler" value="HandleTime">
     <CFOUTPUT>
     <param name="ClipSource" value="#ClipSrc#">
30
     </CFOUTPUT>
     </applet>
     <script Language="JavaScript">
     polling();
     document.applets[0].setStartTime();
35
     </script>
     <table width="100%" border="0" cellspacing="0" cellpadding="0" align="LEFT"
     valign="TOP">
     40
            <BR>
           </center>
     45
     <font face="Arial" size="-1">
```

```
File: stream4.cfm
     <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
5
     <html>
     <head>
            <title>Untitled</title>
     </head>
10
     <cfif Trim(Channel) is "or channel is ' '>
     <br/><body bgcolor="#228B22" leftmargin=3 topmargin=3>
            <a href="http://home.sol.no/~ggunners/NetBird.html">Net Bird</a>
15
            <br>><br>><br>>
            <font face="Arial" size="+1" color="Blue">Select a program to view.<br>
            Selections button presents archived shows for this demo. <br/>br><br/>br>
20
            Channels button presents a channel selector mock-up. <br/> br> <br/> br>
            Links button shows all the links from the current program. <br/>br><br/>br>
            Almost everything on the screen is a live link to the internet.
     25
       <br>
30
            </center>
            </font>
     </body>
      </html>
      <cfelse>
35
      <script language="javascript">
      <!--
40
     var count = 0;
      var doPolling;
      var Ver4 = parseInt(navigator.appVersion) >= 4;
      var Nav4 = ((navigator.appName == "Netscape") && Ver4);
      var IE4 = ((navigator.userAgent.indexOf("MSIE") != -1) && Ver4);
45
      var Messages = ";
```

```
var msg=";
     var c msg=";
     var Current time=-1000;
     CaptionWin=null;
     // Save window content dimensions to work around resize
     // behaviour in WIN32 versions of Navigator 4.
     if (Nav4)
            var origWidth = window.innerWidth;
            var origheight = window.innerHeight;
10
     // Invoked by <body> tag's onResize event handler to refresh the page for
15
     // Navigator 4 to assist in getting positioned elements back in place.
      function RestorePage()
      {
            if (Nav4)
                    if (origWidth != window.innerWidth || origHeight != window.innerHeight)
20
                           history.go(0);
             }
      }
25
      function SendChatMessage(Author, Type, Message)
             document.applets[0].SendMessage(Author, Type, Message);
30
      function SendElapsedTimeToApplet(Time)
             document.applets[0].SendElapsedTime(Time);
      }
35
      function HandleSessionMessageEx(Author, Type, Message)
      {
             if (IE4)
40
             document.forms[0].WhatPosition.value=Message;
             else if (Nav4)
45
             document.forms[0].WhatPosition.value=Message;
```

```
}
     }
     function HandleElapsedTime(Message)
 5
            if (IE4)
            document.forms[0].WhatPosition.value=Message;
10
            else if (Nav4)
            document.forms[0].WhatPosition.value=Message;
15
            }
     function HandleSponsor(Message1,Message2,Message3)
            //Handle the images in the SponsorWin frame
20
            parent.DataWin.document.Sponsor.imgsrc.value = Message1;
            parent.DataWin.document.Sponsor.msg2.value = Message2;
            parent.DataWin.document.Sponsor.caption.value = Message2;
            parent.DataWin.document.Sponsor.submit();
25
      function HandleLinks(Message1, Message2, Message3)
            var Type=Message3;
            if(Type == "old")
30
                   msg=msg+"<a href=""+Message1+"" target='NetWin'
     onClick=window.open(",'NetWin',LinkWindow);>"+Message2+"</a>>br>";
35
            else
             {
                   msg="<a href=""+Message1+"" target='NetWin'
      onClick=window.open(",'NetWin',LinkWindow);>"+Message2+"</a><br/>br>";
40
            parent.DataWin.document.Links.msg.value = msg;
            parent.DataWin.document.Links.submit();
45
      function HandleTime(Message)
```

```
{
                   Current time=Message;
     function HandleAd(Message1,Message2, Message3)
5
            //Handle the images in the SponsorWin frame
            parent.DataWin.document.Ad.imgsrc.value = Message1;
            parent.DataWin.document.Ad.msg2.value = Message2;
            parent.DataWin.document.Ad.caption.value = Message2;
10
            parent.DataWin.document.Ad.submit();
     function WinOpen()
            if (CaptionWin == null)
15
                   CaptionWin = window.open("caption2.cfm", "CaptionWin",
     "menubar=0,toolbar=0,resizeable=0,width=320,height=360");
                   CaptionWin.focus();
                   return false;
20
            }
            else
                   if (CaptionWin.closed == true)
25
                           CaptionWin = window.open("caption2.cfm", "CaptionWin",
     "menubar=0,toolbar=0,resizeable=0,width=320,height=360");
                           CaptionWin.focus();
                           return false:
30
                    }
             }
      }
      function HandleCaption(msg)
35
             c msg=c msg+"\r\n"+msg;
             //Handle the images in the SponsorWin frame
             if(CaptionWin == null || CaptionWin.closed == true)
40
             }
             else
             {
                    parent.DataWin.document.Caption.caption.value = c_msg;
                    parent.DataWin.document.Caption.submit();
45
             }
```

```
}
     function HandleComments(Message)
            if (IE4)
 5
            document.forms[0].WhatPosition.value=Message;
            else if (Nav4)
10
            document.forms[0].WhatPosition.value=Message;
            }
15
     }
     function HandleSessionErrorEx(ErrNumber, ErrDescription)
            alert(ErrDescription);
20
      }
     function SendElapsedTime()
25
      {
                   SendElapsedTimeToApplet(Current_time);
                   Current_time+=1000;
                   polling();
30
      }
      function stopPolling()
           clearTimeout(doPolling)
35
      function polling()
          doPolling = setTimeout("SendElapsedTime()",1000);
40
      //-->
      </script>
      <CFOUTPUT>
      <body bgcolor="##228B22" leftmargin=3 topmargin=3>
45
      </CFOUTPUT>
```

```
<applet id="ChatApplet" width="1" height="1" code="LiveChatClient.class"
     codebase="http://blanche.tcn.net:8090/" VIEWASTEXT mayscript>
     <param name="MessageHandler" value="HandleSessionMessageEx">
     <param name="ElapsedTimeMessageHandler" value="HandleElapsedTime">
     <param name="ErrorHandler" value="HandleSessionErrorEx">
     <param name="SponsorHandler" value="HandleSponsor">
     <param name="LinksHandler" value="HandleLinks">
     <param name="CaptionHandler" value="HandleCaption">
     <param name="AdHandler" value="HandleAd">
10
     <param name="CommentsHandler" value="HandleComments">
     <param name="CaptionHandler" value="HandleCaption">
     <param name="ErrorHandler" value="HandleSessionErrorEx">
     <param name="TimeHandler" value="HandleTime">
     <CFOUTPUT>
15
     <param name="ClipSource" value="#ClipSrc#">
     </CFOUTPUT>
     </applet>
     <script Language="JavaScript">
20
     polling();
     document.applets[0].getCurrentPlayTime();
     </script>
     <table width="100%" border="0" cellspacing="0" cellpadding="0" align="LEFT"
     valign="TOP">
25
      <!--- stream in frame name="streamWin" --->
            <cfparam name="Channel" default="">
            <cfparam name="Net" default="">
30
            <cfparam name="Clipsrc" default="">
            <cfparam name="size" default="">
             <cfif Size is 'S'>
                   <cfset Width=160>
35
                   <cfset Height=120>
             <cfelseif Size is 'L'>
                   <cfset Width=512>
                   <cfset Height=384>
             </cfif>
40
             <efif Not Clipsrc is ">
                   <cfif ClipSrc is "SunPar3" and Size is "L">
                          <cfset cliploc =
      'http://www.broadcast.com/business/sun/98par3challenge_102099_100.ram'>
45
                   <cfelseif ClipSrc is "SunPar3" and Size is "S">
```

```
<cfset cliploc =
     'http://www.broadcast.com/business/sun/98par3challenge 102099_56.ram'>
                   <cfelse>
                          <cfif Size is 'S'>
                                 <cfset cliploc = '/media/56k/#Clipsrc#.ram'>
5
                          <cfelse>
                                 <cfset cliploc = '/media/#Clipsrc#.ram'>
                          </cfif>
                   </cfif>
            </cfif>
10
            <center>
            <cfoutput>
            <object
15
            ID=video1
             CLASSID="clsid:CFCDAA03-8BE4-11cf-B84B-0020AFBBCCFA"
             height=#Height#
             width=#Width#
20
             <param name="controls" value="ImageWindow">
             <param NAME="console" VALUE="Clip1">
             <param NAME="autostart" VALUE="true">
             <param NAME="src" VALUE="#Cliploc#">
25
             <embed name="video1" SRC="#Cliploc#"</pre>
             type="audio/x-pn-realaudio-plugin"
             CONSOLE="Clip1"
             controls="ImageWindow"
30
             height=#Height#
             width=#Width#
             AUTOSTART=true>
             </object>
35
             <BR>
             <form>
             <input type="Button" name="Play_Button" value="Play"
     onClick="document.applets[0].init();document.applets[0].getCurrentPlayTime();document.vi
     deo1.DoPlay();polling()">
             <input type="Button" name="Pause_Button" value="Pause"</pre>
40
     onClick="document.video1.DoPause();stopPolling();">
             <input type="Button" name="Stop Button" value="Stop"</pre>
     onClick="document.video1.DoStop();stopPolling()">
             <input type="Button" name="position" value="Position"</pre>
     onClick="javascript:alert(document.video1.GetPosition())">
45
```

```
<input type="Button" name="buffer" value="Send"
    onClick="SendChatMessage('ripu', 'ChatMessage', document.video1.GetPosition())">
          <input type="Text" name="WhatPosition"> --->
          </form>
5
          </cfoutput>
          </center>
    10
    <font face="Arial" size="-1">
                                 <a
    href="caption2.cfm?Channel=<cfoutput>#Channel#</cfoutput>" target="CaptionWin"
    onClick="return(WinOpen())">CC</a>
    15
    </body>
    </html>
20
    </cfif>
    <!--- <table width="100%" border="0" cellspacing="0" cellpadding="0" align="LEFT"
    valign="TOP">
25
    <BR>
          </center>
    30
     <font face="Arial" size="-1">
    href="caption2.cfm?Channel=<cfoutput>#Channel#</cfoutput>" target="CaptionWin"
35
     onClick="return(WinOpen())">CC</a>
     </body>
40
     </html>
     </cfif> --->
```

```
File: thankyou.cfm
     <cfquery name="getcomments"
5
                   datasource="VBIContent"
                   username="caption"
                   password="trewq55">
     select comment from ctlfile
     where clipsource = '#clipsrc#'
10
     and Type = 'C'
     and seconds > #Evaluate(LTime -10)#
     and seconds < #Evaluate(LTime +10)#
     order by seconds
15
     </cfquery>
     <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
20
      <html>
      <head>
            <title>Thank You</title>
      </head>
25
      <body>
      <font face="Arial" color = "cadetblue" size="-1">Thank you for your comment. Here are the
      comments around yours:
      <font color="crimson">
30
      <br/>br>
      <cfoutput query="GetComments">
      #comment#<br>
      </cfoutput></font>
      </font>
35
      <form>
      <input type="Button" value="Close" onClick="window.close();">
      </form>
      </body>
      </html>
40
```

Appendix D

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```
5
                                              Cold Fusion
                                               TESsocket
10
     File: captionsock.c
     #include <stdio.h>
     #include <sys/types.h>
     #include <sys/socket.h>
15
      #include <netinet/in.h>
      #include <netdb.h>
      #include <fcntl.h>
      #include <errno.h>
20
      #define EOCAP (buf[0]==0x01 || buf[0]==0x02 || buf[0]==0x11 || buf[0]==0x12)
      #define LOG(X) {fprintf(fp,"\n%s",X); fflush(fp);}
      #define DEBUG 0
      #define captionsock 9000
25
      #define IPTES3 "206.221.245.75"
      FILE *fp;
      #define stderr fp
30
      static parse();
      int argc;
      char **argv;
35
      int state;
      char outstr[10000];
                                    /* Socket descriptor */
      int sock desc;
                                    /* Internet Socket addr. struct */
      struct sockaddr_in sa;
                                    /* Result of host name lookup */
      struct hostent *hp;
40
                                    /* Result of service lookup */
      struct servent *sp;
      int len,seq,i,flags=0;
      char seq_str[30];
      char rep_type;
      char query_str[90000];
45
```

FILE *fp head, *fp_list, *fp_tail;

```
char ch;
     char ARGV[26][9000];
     int ARGC;
5
    int bargc;
     char *bargv[20],*cp;
                                          /* this program nanme */
     char myname[] = "captionsock";
10
     int inc;
     char junk[9000];
     char buf[9000];
     /* all remaining test passed to program is then passed
15
      directly to upstream */
     int count;
     int lenr, res;
     char blank[]="";
20
     #define MAXHOSTNAME 32
     #define BUFSIZE 9000
25
     int
     main()
     {
     char sendbuff[300]; /* due to captioning data size limitiations,
                               this should be more than enough */
30
     int buffin;
     char *buffpnt;
     int firsttime=1;
     char field[2];
     char outb[1000];
35
     char systemstring[200];
     char localhost[32];
      fp=fopen("/tmp/captionlog","w");
40
     /* caption log stores raw data!!! */
       /***************************
45
       gethostname(localhost, MAXHOSTNAME);
```

```
if((hp = gethostbyname(localhost)) == NULL) {
             fprintf(stderr,"no such host?\n");
             exit(0);
5
       }
       sa.sin port = htons(captionsock);
       bcopy((char *)hp->h_addr, (char *)&sa.sin_addr, hp->h_length);
       sa.sin_family = hp->h_addrtype;
       inet_aton(IPTES3,&sa.sin addr);
10
       /* IP of TES3!! */
       if((sock\_desc=socket(hp->h\_addrtype,SOCK\_STREAM,0)) < 0)  {
             perror("socket");
15
             exit(0);
       }
       LOG("CONNECT SOCKET");
       if(connect(sock desc,&sa,(int)(sizeof sa)) < 0) {
20
             perror("connect");
             exit(0);
       }
       LOG("READ");
25
       /* send these lines off to mysql as they come in */
       /* insert into record incrementing table, with time stamp on creation */
       /* perl program will collect together fragmented time stamped data,
        and join to completed objects ... then on from there*/
30
       /* TOKENS at this time are 0x01 0x02 0x11 0x12 0x0a */
       field[1]='\0';
       buffpnt=sendbuff;
35
       /* on first in, discard everything up to first valid TOKEN */
        for (;;) {
         len = read(sock_desc,buf,1);
40
         buf[len]='0';
         buf[0]=buf[0]&0x7f; /* mask of high bit */
        /* DEBUG: printf("%s",buf); */
         if (len > 0)
45
```

```
if(EOCAP)
               *buffpnt='\0';
               if( firsttime ) { firsttime=0; buffpnt=sendbuff;}
               else
 5
                 {
                     /* set up shell cmd line to insert to mysql!! */
                   systemstring[0]='\0';
                     strcat(systemstring,"echo 'insert into raw (str2,stamped) values (\"");
                     strcat(systemstring, field);
10
                     /* loop over data and make comma delimited*/
                     streat(systemstring, "");
                     for(i=0; i<strlen(sendbuff); i++)
15
                        sprintf(outb,"%d",(int)sendbuff[i]);
                        streat(systemstring, outb);
                        streat(systemstring, ",");
20
      /* echo 'insert into raw (str2,stamped) values ("2 34,23,",now())' | /usr/www/local/mysql-
      3.22.27/bin/mysql caption */
                                                               */
      /* strcat(systemstring, "\",now())' >> /tmp/yyyy");
25
                      strcat(systemstring, "\",now())' | /usr/www/local/mysql-3.22.27/bin/mysql
      caption");
30
      /* comment out logic below to send data if also blank */
                    if (strlen(sendbuff) > 0)
                             system(systemstring);
35
                      buffpnt=sendbuff;
                   } /* end else */
                 switch ((char)(buf[0]))
40
                   {
                              case 0x01: field[0]='1'; break;
                              case 0x02: field[0]='2'; break;
                              case 0x11: field[0]='1'; break;
                              case 0x12: field[0]='2'; break;
                              default: exit(0); break;
 45
                   }
```

```
} /* end if EOCAP */
           else /* not end of caption char */
             /* if(buf[0]==0x0a) { buf[0]=0xff; exit(0); } */
*(buffpnt)=buf[0]; buffpnt++;
 5
              LOG(buf);
          } /* end len > 0 */
10
          /* SYSTEM shell call - although inefficent right know, this still can write over 100 sub
      string events to the DB
      per second, far beyond what we need!!! */
          /* system("date >> /tmp/yy"); */
15
      /* NOTE: 01 02 11 12 (hex) 01 02 start of data 11 12 no data
      0x0a just means nothing? */
20
      }
```

```
File: cgic.c
     #if CGICDEBUG
     \# define\ CGICDEBUGSTART\ \setminus
5
            { \
                   FILE *dout; \
                   dout = fopen("/home/boutell/public_html/debug", "a"); \
     #define CGICDEBUGEND \
10
                   fclose(dout); \
     #else /* CGICDEBUG */
     #define CGICDEBUGSTART
     #define CGICDEBUGEND
15
      #endif /* CGICDEBUG */
      #include <stdio.h>
      #include <string.h>
      #include <ctype.h>
20
      #include <stdlib.h>
      #ifndef NO UNISTD
      #include <unistd.h>
      #endif /* NO UNISTD */
      #include "/usr/local/cgic103/cgic.h"
25
      #define cgiStrEq(a, b) (!strcmp((a), (b)))
      char *cgiServerSoftware;
30
      char *cgiServerName;
      char *cgiGatewayInterface;
      char *cgiServerProtocol;
      char *cgiServerPort;
      char *cgiRequestMethod;
35
      char *cgiPathInfo;
      char *cgiPathTranslated;
      char *cgiScriptName;
      char *cgiQueryString;
      char *cgiRemoteHost;
      char *cgiRemoteAddr;
40
      char *cgiAuthType;
      char *cgiRemoteUser;
      char *cgiRemoteIdent;
      char *cgiContentType;
      int cgiContentLength;
45
      char *cgiAccept;
```

```
char *cgiUserAgent;
     FILE *cgiIn;
     FILE *cgiOut;
 5
     /* One form entry, consisting of an attribute-value pair. */
     typedef struct cgiFormEntryStruct {
          char *attr;
          char *value;
10
          struct cgiFormEntryStruct *next;
      } cgiFormEntry;
     /* The first form entry. */
     static cgiFormEntry *cgiFormEntryFirst;
15
      /* True if CGI environment was restored from a file. */
      static int cgiRestored = 0;
      static void cgiGetenv(char **s, char *var);
20
      typedef enum {
             cgiParseSuccess,
             cgiParseMemory,
25
             cgiParseIO
      } cgiParseResultType;
      static cgiParseResultType cgiParseGetFormInput();
      static cgiParseResultType cgiParsePostFormInput();
      static cgiParseResultType cgiParseFormInput(char *data, int length);
30
      static void cgiSetupConstants();
      static void cgiFreeResources();
      static int cgiStrEqNc(char *s1, char *s2);
      int main(int argc, char *argv[]) {
35
             int result;
             char *cgiContentLengthString;
             cgiSetupConstants();
             cgiGetenv(&cgiServerSoftware, "SERVER SOFTWARE");
             cgiGetenv(&cgiServerName, "SERVER_NAME");
40
             cgiGetenv (\&cgiGateway Interface, "GATEWAY\_INTERFACE");\\
             cgiGetenv(&cgiServerProtocol, "SERVER_PROTOCOL");
             cgiGetenv(&cgiServerPort, "SERVER_PORT");
             cgiGetenv(&cgiRequestMethod, "REQUEST_METHOD");
              cgiGetenv(&cgiPathInfo, "PATH_INFO");
45
             cgiGetenv(&cgiPathTranslated, "PATH_TRANSLATED");
```

```
The string them will be the string the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the string of the strin
```

```
cgiGetenv(&cgiScriptName, "SCRIPT_NAME");
            cgiGetenv(&cgiQueryString, "QUERY_STRING");
            cgiGetenv(&cgiRemoteHost, "REMOTE HOST");
            cgiGetenv(&cgiRemoteAddr, "REMOTE ADDR");
            cgiGetenv(&cgiAuthType, "AUTH TYPE");
 5
            cgiGetenv(&cgiRemoteUser, "REMOTE USER");
            cgiGetenv(&cgiRemoteIdent, "REMOTE IDENT");
            cgiGetenv(&cgiContentType, "CONTENT TYPE");
            cgiGetenv(&cgiContentLengthString, "CONTENT_LENGTH");
            cgiContentLength = atoi(cgiContentLengthString);
10
            cgiGetenv(&cgiAccept, "HTTP_ACCEPT");
            cgiGetenv(&cgiUserAgent, "HTTP USER AGENT");
     #ifdef CGICDEBUG
            CGICDEBUGSTART
15
            fprintf(dout, "%d\n", cgiContentLength);
            fprintf(dout, "%s\n", cgiRequestMethod);
            fprintf(dout, "%s\n", cgiContentType);
            CGICDEBUGEND
     #endif /* CGICDEBUG */
20
            cgiFormEntryFirst = 0;
            cgiIn = stdin;
            cgiOut = stdout;
            cgiRestored = 0;
25
            /* These five lines keep compilers from
                  producing warnings that argc and argv
                  are unused. They have no actual function. */
            if (argc) {
30
                  if (argv[0]) {
                         cgiRestored = 0;
            }
35
            if (cgiStrEqNc(cgiRequestMethod, "post")) {
     #ifdef CGICDEBUG
                  CGICDEBUGSTART
                  fprintf(dout, "POST recognized\n");
40
                  CGICDEBUGEND
     #endif /* CGICDEBUG */
                  if (cgiStrEqNc(cgiContentType, "application/x-www-form-urlencoded")) {
     #ifdef CGICDEBUG
45
                         CGICDEBUGSTART
                         fprintf(dout, "Calling PostFormInput\n");
```

```
CGICDEBUGEND
     #endif /* CGICDEBUG */
                          if (cgiParsePostFormInput() != cgiParseSuccess) {
     #ifdef CGICDEBUG
 5
                                CGICDEBUGSTART
                                 fprintf(dout, "PostFormInput failed\n");
                                 CGICDEBUGEND
     #endif /* CGICDEBUG */
                                cgiFreeResources();
10
                                return -1;
     #ifdef CGICDEBUG
                          CGICDEBUGSTART
                          fprintf(dout, "PostFormInput succeeded\n");
15
                          CGICDEBUGEND
     #endif /* CGICDEBUG */
            } else if (cgiStrEqNc(cgiRequestMethod, "get")) {
                   /* The spec says this should be taken care of by
20
                          the server, but... it isn't */
                   cgiContentLength = strlen(cgiQueryString);
                   if (cgiParseGetFormInput() != cgiParseSuccess) {
     #ifdef CGICDEBUG
                          CGICDEBUGSTART
                          fprintf(dout, "GetFormInput failed\n");
25
                          CGICDEBUGEND
     #endif /* CGICDEBUG */
                          cgiFreeResources();
                          return -1;
30
                   } else {
     #ifdef CGICDEBUG
                          CGICDEBUGSTART
                          fprintf(dout, "GetFormInput succeeded\n");
                          CGICDEBUGEND
35
     #endif /* CGICDEBUG */
                   }
            }
            result = cgiMain();
            cgiFreeResources();
40
            /* The following two lines allegedly produce better behavior
                   when run with the CERN server on some platforms.
                   Remove them and experiment if you wish. */
            fflush(stdout);
45
            sleep(1);
            return result;
```

```
}
      static void cgiGetenv(char **s, char *var){
             *s = getenv(var);
 5
             if (!(*s)) {
                     *s = "":
             }
      }
10
      static cgiParseResultType cgiParsePostFormInput() {
             char *input;
             cgiParseResultType result;
             if (!cgiContentLength) {
                    return cgiParseSuccess;
15
             input = (char *) malloc(cgiContentLength);
             if (!input) {
                    return cgiParseMemory;
20
             if (fread(input, 1, cgiContentLength, cgiIn) != cgiContentLength) {
                    return cgiParseIO;
             result = cgiParseFormInput(input, cgiContentLength);
             free(input);
25
             return result;
      static cgiParseResultType cgiParseGetFormInput() {
             return cgiParseFormInput(cgiQueryString, cgiContentLength);
30
      }
      typedef enum {
             cgiEscapeRest,
             cgiEscapeFirst,
35
             cgiEscapeSecond
      } cgiEscapeState;
      typedef enum {
             cgiUnescapeSuccess,
40
             cgiUnescapeMemory
      } cgiUnescapeResultType;
      static cgiUnescapeResultType cgiUnescapeChars(char **sp, char *cp, int len);
45
      static cgiParseResultType cgiParseFormInput(char *data, int length) {
             /* Scan for pairs, unescaping and storing them as they are found. */
```

```
int pos = 0;
            cgiFormEntry *n;
            cgiFormEntry *1 = 0;
            while (pos != length) {
                    int foundEq = 0;
5
                    int foundAmp = 0;
                    int start = pos;
                    int len = 0;
                    char *attr;
                     char *value;
10
                     while (pos != length) {
                            if (data[pos] == '=') {
                                    foundEq = 1;
                                    pos++;
                                    break;
15
                            }
                            pos++;
                            len++;
                     if (!foundEq) {
20
                             break;
                     if (cgiUnescapeChars(&attr, data+start, len)
                             != cgiUnescapeSuccess) {
                             return cgiParseMemory;
25
                     start = pos;
                     len = 0;
                      while (pos != length) {
                             if (data[pos] == '&') {
30
                                     foundAmp = 1;
                                     pos++;
                                     break;
                             }
                             pos++;
 35
                             len++;
                      /* The last pair probably won't be followed by a &, but
                             that's fine, so check for that after accepting it */
                      if (cgiUnescapeChars(&value, data+start, len)
 40
                              != cgiUnescapeSuccess) {
                              return cgiParseMemory;
                      /* OK, we have a new pair, add it to the list. */
                      n = (cgiFormEntry *) malloc(sizeof(cgiFormEntry));
 45
                      if (!n) {
```

```
return cgiParseMemory;
                     }
                     n->attr = attr;
                     n->value = value;
 5
                     n->next=0;
                     if (!1) {
                            cgiFormEntryFirst = n;
                     } else {
                            1->next = n;
10
                     1 = n;
                     if (!foundAmp) {
                            break;
                     }
15
             return cgiParseSuccess;
      }
      static int cgiHexValue[256];
20
      cgiUnescapeResultType cgiUnescapeChars(char **sp, char *cp, int len) {
             char *s;
             cgiEscapeState escapeState = cgiEscapeRest;
             int escapedValue = 0;
25
             int srcPos = 0;
             int dstPos = 0;
             s = (char *) malloc(len + 1);
             if (!s) {
                     return cgiUnescapeMemory;
30
             while (srcPos < len) {
                     int ch = cp[srcPos];
                     switch (escapeState) {
                            case cgiEscapeRest:
35
                            if (ch == '\%') {
                                    escapeState = cgiEscapeFirst;
                            } else if (ch == '+') {
                                    s[dstPos++] = ' ';
                            } else {
40
                                    s[dstPos++] = ch;
                            break;
                            case cgiEscapeFirst:
                            escapedValue = cgiHexValue[ch] << 4;
45
                            escapeState = cgiEscapeSecond;
                            break;
```

```
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```

```
case cgiEscapeSecond:
                           escapedValue += cgiHexValue[ch];
                           s[dstPos++] = escapedValue;
                           escapeState = cgiEscapeRest;
                           break;
5
                    srcPos++;
             s[dstPos] = '\0';
             *_{sp} = s;
10
             return cgiUnescapeSuccess;
      }
      static void cgiSetupConstants() {
15
             int i;
             for (i=0; (i < 256); i++)
                    cgiHexValue[i] = 0;
             cgiHexValue['0'] = 0;
             cgiHexValue['1'] = 1;
20
             cgiHexValue['2'] = 2;
             cgiHexValue['3'] = 3;
              cgiHexValue['4'] = 4;
              cgiHexValue['5'] = 5;
              cgiHexValue['6'] = 6;
25
              cgiHexValue['7'] = 7;
              cgiHexValue['8'] = 8;
              cgiHexValue['9'] = 9;
              cgiHexValue['A'] = 10;
              cgiHexValue['B'] = 11;
30
              cgiHexValue['C'] = 12;
              cgiHexValue['D'] = 13;
              cgiHexValue['E'] = 14;
              cgiHexValue['F'] = 15;
              cgiHexValue['a'] = 10;
35
              cgiHexValue['b'] = 11;
              cgiHexValue['c'] = 12;
              cgiHexValue['d'] = 13;
              cgiHexValue['e'] = 14;
              cgiHexValue['f'] = 15;
 40
       }
       static void cgiFreeResources() {
              cgiFormEntry *c = cgiFormEntryFirst;
              cgiFormEntry *n;
 45
               while (c) {
```

```
n = c - next;
                    free(c->attr);
                    free(c->value);
                    free(c);
 5
                    c = n;
             /* If the cgi environment was restored from a saved environment,
                    then these are in allocated space and must also be freed */
             if (cgiRestored) {
                    free(cgiServerSoftware);
10
                    free(cgiServerName);
                    free(cgiGatewayInterface);
                    free(cgiServerProtocol);
                    free(cgiServerPort);
15
                    free(cgiRequestMethod);
                    free(cgiPathInfo);
                    free(cgiPathTranslated);
                    free(cgiScriptName);
                    free(cgiQueryString);
20
                    free(cgiRemoteHost);
                    free(cgiRemoteAddr);
                    free(cgiAuthType);
                    free(cgiRemoteUser);
                    free(cgiRemoteIdent);
25
                    free(cgiContentType);
                    free(cgiAccept);
                    free(cgiUserAgent);
             }
      }
30
      static cgiFormResultType cgiFormEntryString(
             cgiFormEntry *e, char *result, int max, int newlines);
      static cgiFormEntry *cgiFormEntryFindFirst(char *name);
      static cgiFormEntry *cgiFormEntryFindNext();
35
      cgiFormResultType cgiFormString(
           char *name, char *result, int max) {
             cgiFormEntry *e;
40
             e = cgiFormEntryFindFirst(name);
             if (!e) {
                     strcpy(result, "");
                    return cgiFormNotFound;
45
             return cgiFormEntryString(e, result, max, 1);
```

```
cgiFormResultType cgiFormStringNoNewlines(
          char *name, char *result, int max) {
             cgiFormEntry *e;
 5
             e = cgiFormEntryFindFirst(name);
             if (!e) {
                    strcpy(result, "");
                    return cgiFormNotFound;
10
             return cgiFormEntryString(e, result, max, 0);
      }
      cgiFormResultType cgiFormStringMultiple(
          char *name, char ***result) {
15
             char **stringArray;
             cgiFormEntry *e;
             int i;
             int total = 0;
             /* Make two passes. One would be more efficient, but this
20
                    function is not commonly used. The select menu and
                    radio box functions are faster. */
             e = cgiFormEntryFindFirst(name);
             if (e!=0) {
                    do {
25
                            total++;
                    } while ((e = cgiFormEntryFindNext()) != 0);
             stringArray = (char **) malloc(sizeof(char *) * (total + 1));
             if (!stringArray) {
30
                    *result = 0;
                    return cgiFormMemory;
             /* initialize all entries to null; the last will stay that way */
             for (i=0; (i \le total); i++) {
                    stringArray[i] = 0;
35
             /* Now go get the entries */
             e = cgiFormEntryFindFirst(name);
      #ifdef CGICDEBUG
40
             CGICDEBUGSTART
             fprintf(dout, "StringMultiple Beginning\n");
             CGICDEBUGEND
      #endif /* CGICDEBUG */
             if (e) {
45
                    i = 0;
                    do {
```

```
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```

```
int max = strlen(e->value) + 1;
                          stringArray[i] = (char *) malloc(max);
                          if (stringArray[i] == 0) {
                                 /* Memory problems */
                                  cgiStringArrayFree(stringArray);
5
                                  *result = 0;
                                  return cgiFormMemory;
                           strcpy(stringArray[i], e->value);
                           cgiFormEntryString(e, stringArray[i], max, 1);
10
                    } while ((e = cgiFormEntryFindNext()) != 0);
                    *result = stringArray;
      #ifdef CGICDEBUG
                    CGICDEBUGSTART
15
                    fprintf(dout, "StringMultiple Succeeding\n");
                    CGICDEBUGEND
      #endif /* CGICDEBUG */
                    return cgiFormSuccess;
             } else {
20
                    *result = stringArray;
      #ifdef CGICDEBUG
                    CGICDEBUGSTART
                    fprintf(dout, "StringMultiple found nothing \n");\\
                    CGICDEBUGEND
25
      #endif /* CGICDEBUG */
                    return cgiFormNotFound;
              }
      }
30
      cgiFormResultType\ cgiFormStringSpaceNeeded (
           char *name, int *result) {
              cgiFormEntry *e;
              e = cgiFormEntryFindFirst(name);
 35
              if (!e) {
                     *result = 1;
                     return cgiFormNotFound;
              *result = strlen(e->value) + 1;
              return cgiFormSuccess;
 40
       }
       static cgiFormResultType cgiFormEntryString(
              cgiFormEntry *e, char *result, int max, int newlines) {
              char *dp, *sp;
 45
               int truncated = 0;
```

```
int len = 0;
                       int avail = max-1;
                       int crCount = 0;
                       int lfCount = 0;
          5
                       dp = result;
                       sp = e->value;
                       while (1) {
                               int ch;
                               ch = *sp;
                               if (len == avail) {
         10
                                      truncated = 1;
                                      break;
                               /* Fix the CR/LF, LF, CR nightmare: watch for
15
                                      consecutive bursts of CRs and LFs in whatever
                                      pattern, then actually output the larger number
ũ
                                      of LFs. Consistently sane, yet it still allows
ijŢ
                                      consecutive blank lines when the user
1.4
                                      actually intends them. */
(T
         20
                              if ((ch == 13) || (ch == 10)) {
if (ch == 13) {
1,71
                                              crCount++;
                                      } else {
lfCount++;
         25
                               } else {
                                      if (crCount | lfCount) {
                                              int lfsAdd = crCount;
                                              if (lfCount > crCount) {
         30
                                                      lfsAdd = lfCount;
                                              /* Stomp all newlines if desired */
                                              if (!newlines) {
                                                      1 \text{fsAdd} = 0;
         35
                                              }
                                              while (lfsAdd) {
                                                      if (len == avail) {
                                                             truncated = 1;
                                                             break;
         40
                                                      *dp = 10;
                                                      dp++;
                                                      lfsAdd--;
                                                      len++;
         45
                                              crCount = 0;
```

```
lfCount = 0;
                            if (ch == '\0') {
                                   /* The end of the source string */
                                   break;
5
                            *dp = ch;
                            dp++;
                            len++;
10
                     sp++;
             *dp = '\0';
             if (truncated) {
                     return cgiFormTruncated;
15
              } else if (!len) {
                     return cgiFormEmpty;
              } else {
                     return cgiFormSuccess;
20
              }
      }
      static int cgiFirstNonspaceChar(char *s);
      cgiFormResultType cgiFormInteger(
25
           char *name, int *result, int defaultV) {
              cgiFormEntry *e;
              int ch;
              e = cgiFormEntryFindFirst(name);
30
              if (!e) {
                      *result = defaultV;
                      return cgiFormNotFound;
              if (!strlen(e->value)) {
                      *result = defaultV;
 35
                      return cgiFormEmpty;
               ch = cgiFirstNonspaceChar(e->value);
               if (!(isdigit(ch)) && (ch != '-') && (ch != '+')) {
                      *result = defaultV;
 40
                      return cgiFormBadType;
               } else {
                       *result = atoi(e->value);
                      return cgiFormSuccess;
 45
               }
        }
```

```
cgiFormResultType cgiFormIntegerBounded(
           char *name, int *result, int min, int max, int defaultV) {
             cgiFormResultType error = cgiFormInteger(name, result, defaultV);
 5
             if (error != cgiFormSuccess) {
                    return error;
             if (*result < min) {
                    *result = min;
                    return cgiFormConstrained;
10
             if (*result > max) {
                    *result = max;
                    return cgiFormConstrained;
15
             return cgiFormSuccess;
      }
      cgiFormResultType cgiFormDouble(
           char *name, double *result, double defaultV) {
20
             cgiFormEntry *e;
             int ch;
             e = cgiFormEntryFindFirst(name);
             if (!e) {
                     *result = defaultV;
25
                    return cgiFormNotFound;
             if (!strlen(e->value)) {
                     *result = defaultV;
30
                    return cgiFormEmpty;
             ch = cgiFirstNonspaceChar(e->value);
             if (!(isdigit(ch)) && (ch != '.') && (ch != '-') && (ch != '+')) {
                     *result = defaultV;
35
                    return cgiFormBadType;
             } else {
                     *result = atof(e->value);
                    return cgiFormSuccess;
             }
40
      }
      cgiFormResultType cgiFormDoubleBounded(
           char *name, double *result, double min, double max, double defaultV) {
             cgiFormResultType error = cgiFormDouble(name, result, defaultV);
             if (error != cgiFormSuccess) {
45
                    return error;
```

```
if (*result < min) {
                   *result = min;
                   return cgiFormConstrained;
5
            if (*result > max) {
                   *result = max;
                   return cgiFormConstrained;
            return cgiFormSuccess;
10
     cgiFormResultType\ cgiFormSelectSingle(
            char *name, char **choicesText, int choicesTotal,
            int *result, int defaultV)
15
             cgiFormEntry *e;
             int i;
             e = cgiFormEntryFindFirst(name);
     #ifdef CGICDEBUG
20
             CGICDEBUGSTART
             fprintf(dout, "%d\n", (int) e);
             CGICDEBUGEND
      #endif /* CGICDEBUG */
             if (!e) {
25
                    *result = defaultV;
                    return cgiFormNotFound;
             for (i=0; (i < choicesTotal); i++) {
      #ifdef CGICDEBUG
30
                    CGICDEBUGSTART
                    fprintf(dout, "%s %s\n", choicesText[i], e->value);
                    CGICDEBUGEND
      #endif /* CGICDEBUG */
                    if (cgiStrEq(choicesText[i], e\text{-}value)) \ \{\\
35
      #ifdef CGICDEBUG
                           CGICDEBUGSTART
                            fprintf(dout, "MATCH\n");
                            CGICDEBUGEND
       #endif /* CGICDEBUG */
 40
                            *result = i;
                            return cgiFormSuccess;
                     }
              *result = defaultV;
 45
              return cgiFormNoSuchChoice;
```

```
}
      cgiFormResultType cgiFormSelectMultiple(
             char *name, char **choicesText, int choicesTotal,
 5
             int *result, int *invalid)
      {
             cgiFormEntry *e;
             int i;
             int hits = 0;
             int invalidE = 0;
10
             for (i=0; (i < choicesTotal); i++) {
                     result[i] = 0;
             e = cgiFormEntryFindFirst(name);
15
             if (!e) {
                     *invalid = invalidE;
                     return cgiFormNotFound;
             }
             do {
20
                     int hit = 0;
                     for (i=0; (i < choicesTotal); i++) {
                            if (cgiStrEq(choicesText[i], e->value)) {
                                    result[i] = 1;
                                    hits++;
                                    hit = 1;
25
                                    break;
                             }
                     if (!(hit)) {
                            invalidE++;
30
              } while ((e = cgiFormEntryFindNext()) != 0);
              *invalid = invalidE;
35
             if (hits) {
                     return cgiFormSuccess;
             } else {
                     return cgiFormNotFound;
40
              }
      }
      cgiFormResultType cgiFormCheckboxSingle(
             char *name)
45
      {
             cgiFormEntry *e;
```

```
e = cgiFormEntryFindFirst(name);
             if (!e) {
                    return cgiFormNotFound;
 5
             return cgiFormSuccess;
      extern cgiFormResultType cgiFormCheckboxMultiple(
             char *name, char **valuesText, int valuesTotal,
10
             int *result, int *invalid)
      {
             /* Implementation is identical to cgiFormSelectMultiple. */
             return cgiFormSelectMultiple(name, valuesText,
                    valuesTotal, result, invalid);
15
      cgiFormResultType cgiFormRadio(
             char *name,
             char **valuesText, int valuesTotal, int *result, int defaultV)
20
             /* Implementation is identical to cgiFormSelectSingle. */
             return cgiFormSelectSingle(name, valuesText, valuesTotal,
                    result, defaultV);
      }
25
      void cgiHeaderLocation(char *redirectUrl) {
             fprintf(cgiOut, "Location: %s%c%c", redirectUrl, 10, 10);
      }
      void cgiHeaderStatus(int status, char *statusMessage) {
30
             fprintf(cgiOut, "Status: %d %s%c%c", status, statusMessage,
             10, 10);
      }
35
      void cgiHeaderContentType(char *mimeType) {
             fprintf(cgiOut, "Content-type: %s%c%c", mimeType, 10, 10);
      #ifndef NO SYSTEM
40
      int cgiSaferSystem(char *command) {
             char *s;
             char *sp;
             int i;
45
             int len = (strlen(command) * 2) + 1;
             s = (char *) malloc(len);
```

```
if (!s) {
                     return -1;
             sp = s;
             for (i=0; (i < len); i++) {
 5
                     if(command[i] == ';') {
                             *_{Sp} = ' \ ' ;
                             sp++;
                      \} else if (command[i] == '|') {
                             *_{Sp} = ' \ ' ;
10
                             sp++;
                      *_{sp} = command[i];
                      sp++;
15
              *_{sp} = '0';
              return system(s);
      }
      #endif /* NO_SYSTEM */
20
      static int cgiWriteString(FILE *out, char *s);
      static int cgiWriteInt(FILE *out, int i);
25
      cgiEnvironmentResultType\ cgiWriteEnvironment(char\ *filename)\ \{
              FILE *out;
               cgiFormEntry *e;
               /* Be sure to open in binary mode */
               out = fopen(filename, "wb");
30
               if (!out) {
                      /* Can't create file */
                      return cgiEnvironmentIO;
               if (!cgiWriteString(out, cgiServerSoftware)) {
 35
                       goto error;
               if (!cgiWriteString(out, cgiServerName)) {
                       goto error;
 40
               if (!cgiWriteString(out, cgiGatewayInterface)) {
                       goto error;
               if (!cgiWriteString(out, cgiServerProtocol)) {
                       goto error;
 45
               }
```

```
if (!cgiWriteString(out, cgiServerPort)) {
                     goto error;
             if (!cgiWriteString(out, cgiRequestMethod)) {
 5
                     goto error;
             if (!cgiWriteString(out, cgiPathInfo)) {
                     goto error;
             if (!cgiWriteString(out, cgiPathTranslated)) {
10
                     goto error;
             if (!cgiWriteString(out, cgiScriptName)) {
                     goto error;
15
             if (!cgiWriteString(out, cgiQueryString)) {
                     goto error;
             if (!cgiWriteString(out, cgiRemoteHost)) {
20
                     goto error;
              if (!cgiWriteString(out, cgiRemoteAddr)) {
                     goto error;
              if (!cgiWriteString(out, cgiAuthType)) {
25
                     goto error;
              if (!cgiWriteString(out, cgiRemoteUser)) {
                     goto error;
30
              if (!cgiWriteString(out, cgiRemoteIdent)) {
                      goto error;
              if (!cgiWriteString(out, cgiContentType)) {
35
                      goto error;
              if (!cgiWriteString(out, cgiAccept)) {
                      goto error;
              if (!cgiWriteString(out, cgiUserAgent)) {
 40
                      goto error;
              if (!cgiWriteInt(out, cgiContentLength)) {
                      goto error;
 45
              e = cgiFormEntryFirst;
```

```
while (e) {
                     if (!cgiWriteString(out, e->attr)) {
                             goto error;
                     if (!cgiWriteString(out, e->value)) {
 5
                             goto error;
                     e = e - next;
10
             fclose(out);
             return cgiEnvironmentSuccess;
      error:
              fclose(out);
             /* If this function is not defined in your system,
                     you must substitute the appropriate
15
                     file-deletion function. */
              unlink(filename);
              return cgiEnvironmentIO;
      }
20
      static int cgiWriteString(FILE *out, char *s) {
              int len = strlen(s);
              cgiWriteInt(out, len);
              if (fwrite(s, 1, len, out) != len) {
                      return 0;
25
              return 1;
      }
      static int cgiWriteInt(FILE *out, int i) {
30
              if (!fwrite(&i, sizeof(int), 1, out)) {
                      return 0;
              return 1;
35
       }
       static int cgiReadString(FILE *out, char **s);
       static int cgiReadInt(FILE *out, int *i);
40
       cgiEnvironmentResultType\ cgiReadEnvironment(char\ *filename)\ \{
              FILE *in;
              cgiFormEntry *e, *p;
              /* Free any existing data first */
              cgiFreeResources();
 45
               /* Be sure to open in binary mode */
```

```
in = fopen(filename, "rb");
             if (!in) {
                    /* Can't access file */
                     return cgiEnvironmentIO;
 5
             if (!cgiReadString(in, &cgiServerSoftware)) {
                     goto error;
             if (!cgiReadString(in, &cgiServerName)) {
10
                     goto error;
             if (!cgiReadString(in, &cgiGatewayInterface)) {
                     goto error;
             if (!cgiReadString(in, &cgiServerProtocol)) {
15
                     goto error;
             if (!cgiReadString(in, &cgiServerPort)) {
                     goto error;
20
             if (!cgiReadString(in, &cgiRequestMethod)) {
                     goto error;
             if (!cgiReadString(in, &cgiPathInfo)) {
25
                     goto error;
             if (!cgiReadString(in, &cgiPathTranslated)) {
                     goto error;
30
             if (!cgiReadString(in, &cgiScriptName)) {
                     goto error;
             if (!cgiReadString(in, &cgiQueryString)) {
                     goto error;
35
              if (!cgiReadString(in, &cgiRemoteHost)) {
                     goto error;
              if (!cgiReadString(in, &cgiRemoteAddr)) {
40
                     goto error;
              if (!cgiReadString(in, &cgiAuthType)) {
                     goto error;
              if (!cgiReadString(in, &cgiRemoteUser)) {
45
                      goto error;
```

```
if (!cgiReadString(in, &cgiRemoteIdent)) {
                    goto error;
             if (!cgiReadString(in, &cgiContentType)) {
 5
                     goto error;
             if (!cgiReadString(in, &cgiAccept)) {
                     goto error;
10
             if (!cgiReadString(in, &cgiUserAgent)) {
                     goto error;
             if (!cgiReadInt(in, &cgiContentLength)) {
                     goto error;
15
             p = 0;
             while (1) {
                     e = (cgiFormEntry *) malloc(sizeof(cgiFormEntry));
                     if (!e) {
20
                             cgiFreeResources();
                             fclose(in);
                             return cgiEnvironmentMemory;
                     if (!cgiReadString(in, &e->attr)) {
25
                             /* This means we've reached the end of the list. */
                             free(e);
                             break;
                     if (!cgiReadString(in, &e->value)) {
30
                             free(e);
                             goto error;
                     e > next = 0;
                     if (p) {
35
                             p->next = e;
                      } else {
                             cgiFormEntryFirst = e;
 40
                      p = e;
              fclose(in);
              cgiRestored = 1;
              return cgiEnvironmentSuccess;
 45
       error:
              cgiFreeResources();
```

```
fclose(in);
              return cgiEnvironmentIO;
      }
      static int cgiReadString(FILE *in, char **s) {
 5
              int len;
              cgiReadInt(in, &len);
              *_S = (char *) malloc(len + 1);
              if (!(*s)) {
10
                      return 0;
              if (fread(*s, 1, len, in) != len) {
                      return 0;
15
              (*s)[len] = '\0';
              return 1;
      }
      static int cgiReadInt(FILE *out, int *i) {
20
              if (!fread(i, sizeof(int), 1, out)) {
                      return 0;
              }
              return 1;
      }
25
       static int cgiStrEqNc(char *s1, char *s2) {
              while(1) {
                      if (!(*s1)) {
                              if (!(*s2)) {
                                      return 1;
30
                               } else {
                                      return 0;
                       } else if (!(*s2)) {
                              return 0;
35
                       if (isalpha(*s1)) {
                              if (tolower(*s1) != tolower(*s2)) {
                                      return 0;
40
                       } else if ((*s1) != (*s2)) {
                               return 0;
                       }
                       s1++;
                       s2++;
45
               }
```

```
}
     static char *cgiFindTarget = 0;
     static cgiFormEntry *cgiFindPos = 0;
 5
     static cgiFormEntry *cgiFormEntryFindFirst(char *name) {
             cgiFindTarget = name;
             cgiFindPos = cgiFormEntryFirst;
             return cgiFormEntryFindNext();
10
     }
      static cgiFormEntry *cgiFormEntryFindNext() {
             while (cgiFindPos) {
                    cgiFormEntry *c = cgiFindPos;
                    cgiFindPos = c->next;
15
                    if (!strcmp(c -> attr, cgiFindTarget)) {
                            return c;
                    }
             }
20
             return 0;
      static int cgiFirstNonspaceChar(char *s) {
             int len = strspn(s, "\n\');
             return s[len];
25
      }
      void cgiStringArrayFree(char **stringArray) {
             char *p;
             p = *stringArray;
30
             while (p) {
                    free(p);
                    stringArray++;
                     p = *stringArray;
35
             }
      }
```

```
File: listen.c
     #include <stdio.h>
     #include <sys/types.h>
 5
      #include <sys/socket.h>
      #include linux/in.h>
      #include <netdb.h>
10
      Set captionsocket in BSD services file to a socketnumber
      9999 for example
      */
15
      /* Relay across socket to Manfred's access,
      could be simple socket, httpd on socket 80,
      or even fake an odbc!!! since we need only select!!! */
20
      struct sockaddr_in theaddr = { AF_INET };
      socket_listen()
             struct servent *serv, *getservbyname();
25
             struct hostent *host, *gethostbyname();
             int ss, ns, length;
             char ipbuf[44];
             if( (ss=socket(AF INET, SOCK_STREAM, 0)) < 0)
30
                     puts("\nsocket() failed.");
                     return(0);
35
             /* look up the address of the local host */
             host = gethostbyname("localhost");
             if( host == (struct hostent *)0)
                     puts("\nFailed to get host ip address for this name: \"caption\"");
40
                     return(0);
              bcopy(host->h_addr, (char *)&theaddr, host->h_length);
              theaddr.sin family = AF_INET;
45
```

40

```
length = sizeof(theaddr);
             if (getsockname(ss, (struct sockaddr *)&theaddr, &length) == -1)
                     close(ss);
                     puts("Bad address for socket.");
 5
                     return(0);
              }
             if( (serv = getservbyname("captionsocket","tcp")) == 0 )
10
                      close(ss);
                     puts("/etc/services does not have socket caption registered.");
                      return(0);
              /*theaddr.sin_port = 0;*/
15
              theaddr.sin port = serv->s_port;
              if( bind(ss, (struct sockaddr *)&theaddr, sizeof(theaddr)) < 0)
                      puts("\nbind() failed.");
20
                      close(ss);
                      return(0);
              }
              if( listen(ss,(int)1) \leq 0 )
25
                      puts("\nlisten() failed.");
                      return(0);
               }
30
              if( (ns=accept(ss, 0, 0)) < 0 )
                      puts("\naccept() failed.");
                      return(0);
 35
               close(ss);
               return(ns);
```

File: Makefile

#You may wish to add -DNO_UNISTD and -DNO_SYSTEM to CFLAGS if #your system lacks the /usr/include/unistd.h header file 5 #or the system() function, respectively.

= -O -DHDUU -DAUTOCONNECT **CFLAGS** LDFLAGS = -s

10

\$(NATEXES):\$\$@.c \$(CC) \$(CFLAGS) -o \$@ \$? \$(LDFLAGS)

all: captionsock 15

> captionsock: captionsock.o gcc captionsock.o -o captionsock